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Original Articles

THE HYPOPHYSIS AND HYPOPHYSEAL DISEASE.

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Confined to a small recess in the sphenoid bone is a ductless gland which was first described by Vesalius in 1553 as "the glans pituitans incipiens," believing it secreted mucus. In 1778 it was termed the hypophysis cerebri by Sommering.

The pituitary body or hypophysis cerebri is a small somewhat rounded organ occurring in all vertebrates except the lowest fishes. It weighs from 5 to 10 grains. According to Zander its size is quite variable: 6 to 10.5 mm. in the sagittal diameter, 10 to 14.5 mm. in the vertical, 5 to 9.75 mm. in the transverse. The dura mater which forms the inner walls of the cavernous sinus is its main support.

This gland consists of three parts: a large glandular anterior lobe or pars anterior, a smaller pale posterior lobe or pars nervosa and the pars intermedia of Herring.

The pars anterior develops from an upgrowth of the buccopharyngeal ectoderm about the fourth week. This diverticulum is known as Rathkes pouch and its lumen becomes nipped off by the sphenoid bone later. Histologically this lobe consists of a vascular mass of epithelial cells which Flesch describes as two types: chromophobe or neutrophilic non-granular protoplasmic cells and chromophile or granular protoplasmic cells. The latter type Schoenemann classifies as to staining characteristics of the granules, eosinophile cells and basophile or cyanophile cells. Sections from different parts of the gland differ as to the predominating type of cell, central area the eosinophiles seem to be more abundant while at the periphery the basophiles. Erdheim found the chromophobe cells predominating in infancy. Later the chromophile cells predominate. A functionating gland as described by Delille contains an abundance of colloid substance both intra- and extra-cellular, while in gland nearly exhausted the cells are granular, stain poorly, nuclei are pale and some neutrophilic cells without vacuoles. The colloid substance has been shown by Thaon and more recently by Grünbaum and Grünbaum to discharge into the blood stream. This glandular lobe is surrounded by a connective tissue capsule.

Sometimes a band of epithelial cells is found traversing the sphenoid bone connecting the pars anterior with a small mass under the pharyngeal mucosa, the Rachendach Hypophyse of Erdheim and Haberfeld. This mass of cells may develop into functionating tissue, both normally apparently and as a compensatory hypertrophy in pathological conditions of the hypophysis. Accessory glandules have been found.

The posterior lobe or pars nervosa, practically non-vascular, develops from a downgrowth of the primitive third ventricle with which it communicates by a stalk or infundibulum. It is composed of loose neuroglial and ependymal tissue, invested by an epithelial layer, the pars intermedia.

The pars intermedia is derived from the posterior layer of Rathkes pouch which becomes thickened. The pars intermedia may secret a colloid substance which passes into the pars nervosa. This colloid substance is probably the same substance which Herring describes as hyaline bodies occurring between the nerve fibers. From these spaces Herring believes the substance is probably absorbed by the lymphatics and carried into the infundibular cavity and thence to the third ventricle. Cushing and Goetsch claim that the cerebro-spinal fluid contains the active principle of the posterior lobe. Brown pigment granules are found in this part of the gland which Vogel in his researches has shown vary as to age, sex and disease. Under ten months they are usually absent but gradually increase after four years being more abundant in males. Stumpf con-

siders these granules as degenerative products of the anterior epithelial cells which have invaded this lobe. Lewis believes they are of little significance.

The gland is surrounded by a network of capillaries. The blood supply as described by Goetsch and Dandy differs from that described in some monographs. The anterior lobe supply comes from a number of small arterioles which pass down the stalk, while the posterior lobe is supplied by a single artery from behind. The pars nervosa from vessels of both parts.

Dandy has demonstrated sympathetic nerve fibers passing with the vessels to the gland.

Physiologists have received much of their information concerning the action of this gland through the use of extracts from the whole gland or its individual lobes. Substances have been extracted with water, glycerin, alcohol and salt solution, either from the fresh or dried gland.

Oliver and Shafer were probably the first to demonstrate that glandular extract, even though raised to the boiling point, when injected intravenously, produced a rise in blood pressure. This substance was later shown by Howell to be derived from the posterior lobe (pars nervosa and its epithelial investment). Following the injection there was an initial fall in the blood pressure of short duration and then a subsequent rise of from 20 to 30 minutes with slowing of heart. The action became less with repeated injections. Shafer and Vincent isolated two substances, one a substance which stimulates and increases blood pressure, the other depresses the nervous system. They further showed that the rise in blood pressure was associated with a general vaso-constriction. Magnus and Shafer observed a frequent and prompt distention of the renal vessels with a resultant polyuria following posterior lobe injections. Wiggers has shown that cardiac tracings indicate a depressing influence on the heart to be a constant and characteristic one largely due to direct cardiac action. Pemberton and Sweet demonstrated inhibition of the pancreatic juice by injection of P. D. & Co.'s infundibular extract. Posterior lobe extract also stimulates the involuntary muscle, in the intestines intense peristalsis is produced followed by purgation and sometimes by vomiting, in the uterus and the bladder and dialates the pupil. The mammary muscle is stimulated and in breasts containing milk, the milk oozes out.

Alimentary glycosuria was produced by Claude and Boudouin by the injection of whole gland or posterior lobe extract. They never obtained the glycosuria if the subject had fasted and only obtained it when a meal of milk, bread and sugar, representing 140 to 150 grams of glucose, was given shortly after injection of the extract. They offer as an explanation of their results, that probably the pituitary extract determines a hepatic insufficiency, thus preventing the fixation of glucose in the state of glycogen which may be due to direct action on the liver or to stimulation of the nervous system. They further state that pituitrin stimulates the sympathetic and all the general effects as pallor of skin, malaise, and contraction of non-striated muscle, are readily explained by the excitation of the sympathetics. In a later experiment they showed that, in therapeutic doses, adrenalin also probably acts like pituitrin by hindering the fixation of glucose in the liver in the form of glycogen and producing an alimentary glycosuria. Aschner finds that the absence of the hypophysis diminishes adrenalin glycosuria. Miller and Lewis report that intravenous or intraperitoneal injections of saline extracts of either the anterior or posterior lobes will only occasionally produce a transitory glycosuria in dogs.

Anterior lobe extracts were found by Hamburger and later confirmed by Lewis, Miller and Matthews to cause a primary fall in the blood pressure followed usually by a secondary rise in pressure above the level existing at the onset of the experiment. The latter find that the pressor substance is derived from that part of the pars anterior bounded by a mass of pars intermedia cells. Thus this action is probably due to pars intermedia secretion discharged into the area.

Lewis, Miller and Matthews found that injection of extracts of pars nervosa and pars intermedia had precisely the same effect and believe that the pressor substance is secreted by the pars intermedia and passes into the pars nervosa, possibly by the blood or the hyaline bodies. Also that the depressor substance of the pars anterior, the pars nervosa and the pars intermedia is soluble in alcohol. In hypopituitarism, Cushing's observations show a temporary rise in temperature after anterior lobe injections. Shafer has noted that feeding anterior lobe extract to young rats caused an exaggeration of their growth. Miller fed a series of young white rats with anterior lobe extract and another series with posterior lobe extract. The results when contrasted with the

controls were negative as regards weight and also the skeleton as shown by X-ray. In Cushing's experimental work life could be prolonged in threatened hypophyseprivia by the injection of whole gland or interior lobe extract whereas posterior lobe extract would fail.

Prolonged administration of either whole gland extract or of pars nervosa alone leads to marked nutritional disturbances and alterations in various organs of the body. The suprarenals are at first stimulated and later exhausted. The thyroid shows decreased colloid and there is a tendency to hypothyroidism, probably due to vaso-constriction in the gland. Liver and spleen show necroses. Kidneys are congested and there is an increase in the volume of the glomeruli. Lungs are congested.

Attempts at implantation or transplantation have been unsuccessful. Exner's rats showed an increased growth for a short time. Crowe, Cushing and Homans prolonged the life of animals after total hypophysectomy by immediate reimplantation of the gland into the cerebral cortex which remained viable for at least a month.

Disturbances in the internal glandular system affect the pituitary body. Erdheim and Stumme examined 122 hypophyses of pregnant women and concluded that the organ increases in size and weight in pregnancy and after several pregnancies becomes permanently enlarged, there being a tendency to adenomatous hyperplasia in fully 10 per cent. The hyperplasia is chiefly of the chromophobe cells. Vogel has observed a decrease in the brown pigment granules in the posterior lobe in pregnancy. Gley's thyrodectomized rabbits showed a hypertrophy of the gland. Fischero noticed that castrated steers and cocks all had at autopsy several months later, a hypertrophy of the anterior lobe. Comte noted marked hypertrophy in 12 of 13 cases of goitre with degeneration of the thyroid exclusive of Basedows, while Benda found the hypophysis small in Basedows.

What role this small body plays in the development and maintenance of physiological equilibrium has been the subject of much controversy. Among the early experimenters are Marinesco and Vassale and Sacchi. All their animals died following total hypophysectomy. Friedman and Mass in 1900 reported that extirpation of the pituitary body was compatible with life. La Monaco and Rynbeck in 1901, Gagleo in 1902 and Pirrone in 1903 also arrived at the same conclusion. Fischero in 1905 found that partial removal of the gland in young chickens checked their growth. Paulesco in 1908 extirpated the gland in 22 dogs and 12 cats. Most of these animals developed a peculiar symptom complex known as cachexia hypophysepriva resulting in death in two or three days. Few survived but at autopsy showed viable anterior lobe cells. He thus concluded that total removal of hypophysis was fatal while partial removal of anterior lobe was compatible with life. Reford and Cushing in 1909 reported results that agreed with Paulescos observations. In 1910 Crowe, Cushing and Homans conducted a more detailed study of a larger series of canine hypophysectomies and again confirmed Paulesco's contention, but the average duration of life was longer than Paulesco's observations showed. Puppies lived longer than adult dogs. They further showed that total removal of the anterior lobe was equivalent to total removal of the gland and that animals deprived of the posterior lobe survived indefinitely. Partial removal of the anterior lobe in some of Paulesco's and Cushing's animals lead to an increase in the deposition of fat, sometimes associated with polyuria and trancient glycosuria with shedding of hair and lessening of sexual activities.

Cachexia hypophyseprivia or the symptom-complex produced by the removal of the anterior lobe or the whole gland usually appeared from 30 hours to two weeks after the operation depending on the age of the animal. Early usually a transient glycosuria and polyuria. The animal becomes apathetic, inactive, stiff, gait is unsteady, temperature becomes subnormal, pulse and respiration slow, back arched, incurvature of tail, irregular contractions and coarse movements and finally coma and death.

Handelsmann and Horsley in 1911 issued a preliminary report refuting Cushing and coworkers'conclusions, total removal of the hypophysis in monkey was not incompatible with life and further more that three animals, a dog, cat and monkey survived total removal of the anterior lobe. Paulesco also observed that mere separation of the infundibulum lead to death similar to total hypophysectomy. Cushing disagrees showing it corresponds to partial removal of anterior lobe by incomplete destruction of blood supply to anterior lobe. Handelsmann and Horsley also disagreed and more recently Morawski who experimented with monkeys and suggested that Paulesco's result was probably due to opening the third ventricle. Total extirpation of hypophysis by Ascoli

and Legnani was followed by cessation of development and a tendency to obesity. The epiphyseal ossification was delayed, teething occurred late and sexual organs remained infantile. The thyroid showed colloid atrophy, thymus premature involution being one-fifth normal volume, spleen atrophic and cirrhotic, malpighian follicles has disappeared, the fasicular and reticular zones of the suprarenals reduced to one mixed layer. The longest survival was eight months. Aschner recently declared that the pituitary body was essential so far as development is concerned. He noted no genital changes following removal of the posterior lobe. Sweet and Allen very recently announced that the entire canine hypophysis can be removed without danger to life.

Very interesting carbohydrate tolerance experiments were reported by Goetsch, Cushing and Jacobson in 1911. Simple operative manipulation of the infundulum produced a transient hyperglycaemia and for a few days an alimentary glycosuria. This they attributed to setting free of a reserve deposit of posterior lobe secretion which acted upon the liver causing a sudden release of glycogen. If a considerable portion of the posterior lobe with its epithelial investment was removed or the secretory discharge through the infundibulum interfered with by damaging it or by scar tissue later, the temporary lowering of tolerance was followed by an abnormal increased tolerance for sugars. This would be lowered by the injection of posterior lobe extract. Removal of the anterior lobe partly resulted similarly to the manipulation of the infundibulum, but no over tolerance followed, while injection of posterior lobe extract as before reduced the tolerance, anterior lobe extract being inactive or far less potent in this respect. Thyroid extract was also tried with negative results.

Metabolism in nearly hypophysectomized dogs was observed by Benedict and Homans: the development of the animals ceased, their sexual activity did not develop and if already established was profoundly affected, excessive fat deposits occurred and accounted for the increased weight, body temperature remained slightly subnormal while pulse and respirations became slow. Total metabolism as measured by C02 output was markedly decreased. Aschner and Porges have demonstrated a decreased consumption of oxygen after loss of the pituitary body.

Further studies in carbohydrate metabolism were reported by Weed, Cushing and Jacobson in February 1913. They summarize their work as follows: (1), Piqure of hypophysis in the rabbit is comparable in its glycosuria response to a piqure of Bernards so-called sugar center in the fourth ventricle. (2), Stimulation of the superior cervical ganglion by faradization or by manipulations necessary for exposure caused glysuria in dog, cat and rabbit. (3), Stimulation of superior cervical ganglion after exclusion of all possible downward impulses to abdominal viscera by way of vagi, cervical sympathetic trunks or spinal cord leads to glysuria. (4), Stimulation of superior cervical after separation of all synapses of the sympathetic system by administration of nicotine causes glysuria. (5), Direct faradic stimulation of the hypophysis itself after exposure by a transphenoidal operation gives glycosuria even after preliminary transection of the spinal cord and cervical sympathetic trunks. (6), If the posterior lobe of hypophysis was previously removed by operation the usual stimulation of superior cervical ganglion failed to give glycosuria. (7), Direct faradic stimulation of hypophysis provoked glycosuria even after transection of spinal cord above the splanchnics. (8), A Bernards piqure will likewise cause glycosuria even after transection of spinal cord above the splanchnics. These results were obtained only when there was mobile glycogen in the tissues.

Our knowledge concerning the pathology of this small organ is practically limited to neoplasms. Munzer classifies the pathological processes as follows: 1, atrophic conditions; 2, hypertrophic and hyperplastic conditions; 3, tumors. Scattered through the literature I find reports of the following types of tumors: granulomata, colloid and cystic enlargements, chromophobe-eosinophile and basophile adenomata, carcinoma, sarcoma, angio-sarcoma, perieptthelioma, endothelioma, teratoma (Hecht), glioma and psammoma.

Circulatory changes, anemia, hyperemia and hemorrhages are stated to occur. Lewis finds that the most common tumors of the infundibulum develop from inclusions of the craniopharyngeal duct and may be cystic or solid. These are more frequently associated with Frohlich's syndrome than any other type of intra-cranial tumor. Struma and adenoma of the anterior lobe are the most frequent and practically constant findings in acromegaly. Fischer has emphasized this fact most forcibly recently. Erdheim considers an eosinophile adenoma characteristic of acromegaly. Pars

intermedia tumors are rare having found three in the literature, cases of Erdheim, Cushing and Boyce and Beadles. Lewis further finds that hypophyseal cells tend to reproduce sarcoma morphology when proliferating and advises that growths should be stained with stains that differentiate the granules of the hypophyseal cells.

Tumors may excavate the sella turcica, even open the sphenoid sinus and discharge cerebrospinal fluid from the nose, further they may infiltrate the surrounding brain tissue or as the tumor increases in size compress adjacent parts. As a rule the malignancy of pituitary tumors is relatively low with very slight tendency to metastasis. Hecht states that hypophysis tumors are on the whole slow growing.

Specific hypophyseal symptoms, symptoms due to disturbances of the internal secretion may occur alone or in combination with symptoms due to enlargement of the gland, altering the intracranial relations and conditions.

ACROMEGALY-HYPERPITUITARISM.

This condition was first described by Marie in 1886 believing it the result of lessened function of the gland. Messalongo, Benda and Starch thought acromegaly was due to increased activity of the gland, Gauthier endorsed by Strumpell and Arnold construed acromegaly as a metabolic disorder manifested first in hypophyseal change. Mayer agrees with Stumme that possibly the first impulse leading to acromegaly lies in the generative organs. Marburg suggested hyperfunction of pituitary results in acromegaly while hypofunction in general adiposity and genital atrophy, if complete absence of function to a severe cachexia, Keith explains cause somewhat differently, the acromegalic changes being in the nature of a true growth and probably due to a pituitary substance sensitizing the tissues, the actual cause of the growth being mechanical stimuli arising from muscular action and mechanical movement. The growth changes in acromegaly are similar to those occurring normally in the anthropoids and the neanderthal race. Munzer regards acromegaly as a disturbance of the polyglandular system, not primarily hypophyseal and observed that with the hypophysis other glands of internal secretion were affected. Since the most common pathological finding and a practically constant one is an eosinophile hyperplasia or adenoma of the anterior lobe, Benda, Sternburg, Lewis, Cushing and Fischer conclude that acreomegaly is a result of hyperactivity of the anterior lobe or cells derived from it. Recent surgical results both here and abroad support this view.

Nothdurft recently reported a basophile adenoma of the neurohypophysis found in a case that died as a result of an endothelioma of the dura in the vault. This case had no symptoms referable to the hyophysis, the adenoma being the size of a millet seed. Whether these basophilic cells had invaded the posterior lobe from the anterior lobe or whether the tumor had extended into the posterior lobe from the anterior lobe, he could not determine. He believes this case illustrates another point in favor of the adenoma hyperplasia or adenoma as the cause of acromegaly.

Acromegaly does not occur with all hypophyseal changes, on the contrary autopsies have shown marked alterations without acromegalic phenomena, also acromegaly has occurred without macroscopic changes in the gland; but Erdheim has proven that more careful microscopic examination of the latter reveals alterations. Lewis has pointed out that the pharyngeal hypophysis may be hyperfunctionating, should the hypophysis be normal. Fischer believes that the cases of acromegaly reported without eosinophile hyperplasia or adenoma in the hypophysis can be shown to be cases of syringomyelia with gigantism or some other disease.

Acromegaly is characterized by an overgrowth of the skeletal and soft tissues especially pronounced in the face and the extremities. The onset is insidious: indefinite symptoms as headache, dullness, dizziness, nervousness, weakness, fatigue, flatulence, constipation and epistaxis may occur. Usually the earliest manifestations appear in the hands and feet, often preceded by neuralgic pains or paresthetic sensations.

Keith has made a very careful study of the changes in the skeleton. The osseous-vascular system is altered, the capillaries and venous sinuses are increased in number and size, the surface of the bone is pitted and marked by numerous vascular foramina and impressions. The cranial vault is thickened, commencing in the forehead and spreading backward limited on each side by the temporal lines. The capacity is probably somewhat increased in height. Frontal sinuses greatly expanded. Supraorbital ridges exaggerated and thickened. The whole outer orbital wall is actually prolonged and moved forward. The inion is moved upward on the occiput from 8 to 10 mm. Sella turcica is expanded or excavated. Temporal

fossae increased in height. Mastoid processes are wider apart. The external auditory meatus is larger, deeper and depressed 10 mm. or more. The mandible projects downward and forward, the ramus markedly shortened. The temporomaxillary joint presents an apparently worn away articular eminence until its anterior parts form merely a margin to the glenoid fossa. Palatal area is actually diminished especially that of the lower dental arcade. The teeth are separated. Ribs and cartilages are often enlarged. Cervico-dorsal kyphosis usually present in advanced cases.

Changes in the soft tissues occur coincident with the skeletal alterations. The facies are quite characteristic: the face is increased in length, the features are course, eyelids are thickened, ears large, nose large and heavy, mouth large with thickened lips. The tongue is hypertrophied and fills the mouth. The larynx is large and voice may be deep and strong. The chest is large and the clavicles and sternum usually protrude. Hands are large and greatly thickened, fingers spade-like, thenar and hypothenar eminences enlarged. Feet huge and usually flat. The skin, mucous membrane and viscera are usually hypertrophied. Connective-tissue may be increased throughout the body, especially about nerve trunks and may crowd around the nails. The nails may be thin and small. The sexual organs may be enlarged or on the other hand atrophic. General muscular weakness is frequently pronounced. Falta and Nowacxynski have recently demonstrated that acromegalics on a purin-free diet excret often more than twice the normal amount of urea. Ellis's case showed a creatinuria. Borchard states that 35.5 per cent. of the cases of acromegaly have glycosuria and an additional 5 per cent. lowered sugar tolerance.

There may be a tendency for acromegaly or hyperpituitarism to be transformed into a hypo-active state leading to obesity, increased sugar tolerance, polyuria and lowered blood pressure, males becoming impotent and females developing amenorrhea. These types are termed dyspituitarism. Von Bonin believes pure cases of either hyperpituitarism or hypopituitarism are infrequent but both types are usually mixed.

The course is usually chronic, the onset is insidious, the early subjective symptoms often obscure and not understood. Much depends upon the type of growth in the hypophysis, the extent of the intracranial pressure and the question of metastasis, and also the occurrence of complications. Operative intervention may also modify the course. Sternberg states that true sarcoma of the hypophysis runs an acute course, usually less than four years.

GIGANTISM.

The occurrence of both acromegaly and gigantism with hypophyseal lesions has lead many observers to believe that they are manifestations of the same morbid condition. Massalongo concluded that acromegaly was delayed or abnormal gigantism; if the onset of the condition occurred in youth, gigantism would result, if in adult life acromegaly; while if during adolescens and extending into adult life a combination of both would result, a mixed type. Sternberg found that 40 per cent. of all giants were acromegalics, when both occurred the former always appeared first.

LEONTIASIS OSSEA.

Bassoe suggests that gigantism, acromegaly, leontiasis ossea, osteomalacia and osteitis deformans may have an etiological relationship. Hoppe more recently believes that leontiasis ossea may be a form of acromegaly.

FROHLICH'S SYNDROME—HYPOPITUITARISM.

First described by Frohlich of Frankl Hochwart's clinic in 1901 as a symptom-complex which occurs with hypophyseal disease. It is characterized by atrophy of the generative organs with accompanying diminish and loss of function, impotence in the male, amenorrhea in the female. Associated with the sexual disturbance is a marked general deposit of adipose tissue, hair frequently becomes brittle, perspiration is decreased and skin becomes coarse. If the onset of the condition occurs before complete development, dwarfism or infantilism result and the hair of axilla, pubis and face is deficient. Males may show feminine characteristics and females masculine characteristics. Cushing's cases showed polyuria, polydipsia and increased tolerance for carbohydrates. Not infrequently genital and sexual disturbances precede adiposity, but the adiposity may be absent or followed by a cachexia. Lewis has found cystic degeneration of the tumor in the cases with cachexia. These tumors resembling somewhat the multilocular cysts of the jaw. Low blood pressure is common. Temperature may be subnormal which Cushing considers due to lowered metabolic activity. Appetite is often ravenous, sometimes a peculiar craving for sweets is present. Dullness, drowsiness, early fatigue, weakness and psychic disturb-

ances may appear. Cushing has frequently observed epileptiform attacks and suggests that an undue excitability of the cerebral cortex may be a consequence of posterior lobe insufficiency, though the cases unmistakable uncinate gyrus seizures showed an interpeduncular extension of the growth, which doubtless irritated the adjoining uncinate gyri.

Various theories have been advanced as to the origin of this condition; Frohlich considers it due to a lessened secretion of the anterior lobe. Erdheim denied this believing it due to injury of as yet some unknown center in the base of the brain, possibly pressure on the nervous structures in region of the infundibulum and near the third ventricle, since the syndrome occurred without pituitary disease proper. Fischer disagrees with Erdheim maintaining that dystrophia adiposia genitalis does not occur through pressure on an unknown center but by damage to the pars nervosa and the infundibulum. Whether this damage or destruction of the nervous part leads to interference in the transmission of the secretion of the anterior lobe is not known. Stumpf thinks the relation between the brain and the hypophysis is disturbed either by the interruption of nervous pathways or by insufficiency of secretion of the anterior lobe into the infundibulum or neurohypophysis. He states that in increased cerebral pressure the anterior lobe is compressed before the nervous part, even with considerable pressure the histological structure is preserved independent of the phenomena of dystrophia genitalis and that high-grade adiposity with genital atrophy may occur in chronic hydrocephalus without sellar changes. Cushing assumes that a pathologic hypoplasia of both lobes of the gland has occurred. He states that most cases previously recorded have been either interpedunular cysts or teratomatous growths arising from an anlage related to the original pharyngeal pouch which serves to compress the gland directly. In the typical cases, the symptoms date back from childhood and as a consequence of anterior lobe involvement the patient remains small.

Other tumors adjacent to the hypophysis have been reported causing this syndrome:—Zak's case showed a psammoma of the dura mater compressing the infundibulum, Ottenbergs case a calcified fibro-endothelioma of the dura in the sella and Kummel's case an aneurism of the circle of Willis. Both compressing the infundibulum and the neurohypophysis.

Should pressure conditions or other conditions causing a stasis of the posterior lobe secretion leading to this syndrome transmit pressure to the anterior lobe, the anterior lobe may respond by a hyperlasia and hyperactivity of the anterior lobe and its cells. This may be followed by an increase of growth in conjunction with the dystrophy-adiposia-genitalis. This is known as Cushing's Syndrome.

ADIPOSIS DOLOROSA.

Whether adiposis dolorosa is related to this syndrome has not been definitely proven although Burr's case showed a glioma of the hypophysis and Price's two cases showed changes resembling adeno-carcinoma in the gland.

DIABETES INSIPIDUS.

The relation of the hypophysis to increased urinary excretion is not as yet clear. Magnus and Shafer demonstrated that the posterior (or possibly the pars intermedia cells) secretes a diuretic substance causing a vascular dilatation and stimulation of the renal cells resulting in polyuria.

Clinically acromegaly and Frohlich's syndrome are not infrequently accompanied by polyuria at some stage in their course.

Frank reported a skull bullet wound. in which the bullet lodged in the sella turcica region as shown by the X-ray, followed by diabetes insipidus. He states there are often family cases of idiopathetic diabetes insipidus and concludes there is an inherited increased function of the pars intermedia. Simmonds recently reported a case with a mestatic growth in the clivis and posterior saddle destroying the posterior lobe but not the pars intermedia and concluded that since Shafer had shown that the anterior lobe extract caused no polyuria, the pars intermedia was the cause of the diabetes insipidus present. Lewis and Matthews experimentally produced polyuria resembling diabetes insipidus in 9 of 18 animals by hypophysis trauma. The frequency with which polyuria occurred in posterior lobe and infundibular stimulation and the character of the urine excreted suggested that diabetes insipidus is dependent on the hypersecretion of the diuretic substance, secreted by the pars intermedia cells into the posterior lobe. Haushalter and Lucein have reported a case of simple polyuria in a child of 6 years which existed for 9 months with no other symptoms than polydipsia and polyuria, when the child suddenly had a convulsion which was followed by coma and death. At autopsy a tubercle size of a small nut was

found in the base of the gland. Cushing's case showed a gumma of the anterior lobe which he interprets as having stimulated the pars intermedia into abnormal activity.

Fleeting glycosurias of basal fractures Cushing thinks may be due to pituitary trauma directly or transmitted.

The hypophysis being located in such a small cavity the neoplasms of this gland either enlarge the sella, often eroding its walls or they grow inward intra-cranially and thus disturb intra-cranial relations, giving rise to either focal phenomena involving individual nervous structures or general increased intra-cranial pressure symptoms, often both.

Increased intra-cranial pressure symptoms: headaches, often frontal in type, varying in intensity, sometimes occurring paroxysmally. In most of Von Eiselsberg's cases it was very severe. Rath states it was present in 81.6 per cent. of his cases. Deep orbital pain may be present. Vomiting occurred in 75 per cent. of cases in Frankl Hochwart's clinic while Cushing found it less frequent. Subnormal temperature, Bartels and Rath state is always present. Pulse may be slow but Bartels found it constantly increased. Convulsive and epileptiform attacks may occur. Venous stasis may be evident in the large veins of scalp. Psychic behavior of the patient may be quite affected, shown by intellectual deterioration, melancholia, delusions, stupor, dullness, delirium and perverted or excessive appetite. Hyashi explains the psychic disturbances by the pressure exerted on the frontal lobes. Focal phenomena are evidenced chiefly in the involvement of vision and the oculo-motor nerves. Visual disturbances appear during the course frequently late due to encroachment of the growth on the optic chiasma. Should these growths be vascular or cystic in type and vary in size or rupture, the findings will vary. The onset is usually slow. Bitemporal hemianopsia is common though at first may be unilateral. Evans finds that 50 per cent. of the cases show partial or complete primary atrophy. Photophobia, amaurosis, amblyopia, nystagmus, exopthalmos, concentric contraction of visual field, paralysis of the third and sixth nerves and complete ophthalmoplegia may occur. Wernicke hemiopicpupil phenomena Evans found rarely present.

Oppenheim has called attention to the importance of the X-ray in the diagnosis of pituitary disease. Any change in the sellar outline may be correlated with a definite change in the hypophysis. Cushing considers profile measurements exceeding 15 mm. antero-posteriorly and 10 mm. in depth as indicating an enlargement of the organ in the adult. The normal measurements as given by Keith are antero-posterior 10 to 12 mm. and 8 mm. in depth. Progression of the disease may sometimes be noted by repeated radiograms.

PLURIGLANDULAR PHENOMENA.

Possibly the altered functional states of the pituitary body or any other gland in the internal glandular system leads to a modification in the internal secretion of the other glands. Alterations in the various glands have been demonstrated at autopsy. Thus the occurrence of sexual disturbances, impotence and amenorrhea, glycosuria, pigmentation, hyper or hypotrichosis, asthenia, vaso-motor disturbances, enlargement of the thyroid and emaciation may be significant of involvement of the generative organs, pancreas, adrenals, thyroid thymus or hypophysis.

TREATMENT.

The treatment of pituitary lesions lies chiefly in the realm of surgery. Cushing has treated some cases with the glandular extract with notable improvement especially in cases of hypopituitarism. Recently Cauvin reported a case of acromegaly due to a hypophysis neoplasm with marked visual disturbances treated with extract and the X-ray with marked improvement in vision and relief of intra-cranial pressure phenomena; but no improvement in acromegalic findings and the amenorrhea.

Indications for operative procedure differ somewhat with the surgeon.

Cushing and Hochenegg have operated in a few cases of active acromegaly with some beneficial result; but in Cushing's case improvement was only temporary.

Von-Eislsberg does not consider simple acromegalic or dystrophia adiposo-genitalis phenomena without increased intra-cranial pressure or visual disturbances as indications for operation, nor cases in which minor visual disturbances are stationary under frequent observation of an oculist, nor cases with irreparable ocular conditions and headache absent or mild, but yielding to narcotics. Hirsch agrees with Von-Eiselsberg that acromegaly without visual disturbances is not a sufficient indication for operation; but further states that every case with disturbed vision no matter whether the growth be intra-cranial or intra-sellar, operation is indicated.

Operations on the pituitary are extremely difficult and dangerous the gland being quite inaccessible, the possibility of infection great especially if the transphenoidal route is employed and brain trauma liable if the intra-cranial route is used.

There are two modes of approach to this small body, the intra-cranial route and the extra-cranial or trans-sphenoidal route. The surgical procedure varies with conditions present, indicated by symptoms, signs and X-ray findings.

The intra-cranial route is especially applicable for neoplasms which extend intra-cranially, a much better view of conditions being obtained than by the trans-sphenoidal route.

Canton and Paul suggested the middle fossa approach which was later employed by Horsley. Anterior fossa approach was first introduced by Krause who resected the frontal bone and separated the dura to the lesser wing of the sphenoid where it was incised and the hypophysis exposed. Kiliani opened the dura immediately after the frontal bone was resected. Anterior fossa approach has been further modified and put into use by McArthur: Incision is preferably made over right side from inner end of eyebrow to the outer aspect of the external angular process, cutting through all tissues to the bone, supraorbital vessels ligated without including the nerve. Following the normal furrow a perpendicular incision is made from nasal end upward 3 to 4 cm., tissues and periosteum loosened from bone and reflected up, periosteum of oribital roof also loosened, orbital contents being displaced downwards, portion of frontal prominence from frontal sinus to external angular process and one-half of the orbital roof removed, bone preserved in blood warm saline, later replaced, the remaining part of orbit to optic foramen removed, dura detached from bone covering the inferior surface of the frontal lobe, reaching the clinoid process and free edge of wing of sphenoid, the shelving off of the floor into the sella is determined and the dura between the clinoid processes selected and incised 2 to 3 cm., optic nerve and chiasma and the pituitary body exposed.

I am informed that Dr. McArthur has successfully used this method in his last four cases.

Frazier has recently attempted to modify the McArthur method, extending his incision up into the scalp and outwards again, and resecting a smaller portion of the frontal bone and the orbital roof.

The trans-sphenoidal route gives a better means of attack upon conditions growing into the sphenoid, but the danger of infection is great and operative field narrow.

TRANS-SPHENOIDAL OR EXTRA-CRANIAL ROUTE.

Several modes of approach are in use:

1. Infra-nasal route.
2. Supra-nasal route.
3. Oro-nasal route.
4. Endo-nasal route.

König and Hertle employed a rather complicated approach in their experimental work, first splitting the superior maxilla.

Löewe made his incision a little to one side of the median line of the nose, cutting through bone and soft parts, the sides of the nose were turned out, the septum deflected or resected, the ethmoidal cells and turbinateds removed and the sphenoidal cells opened.

Moszkowicz and Tandler devised a two-step operation: 1. Making their incision along the side of the nose, the nose then turned to one side and then proceeding to the sphenoidal cells similar to Löewe, and then turned back a flap from the forehead onto the cribiform plate to the tip of the sphenoidal cells. 2. Later the sphenoidal cells and the sella are opened. They attempt to prevent meningitis by this method. Schloffer turns the nose to the right, excises the turbinateds, nasal septum and the ethmoid cells, the inner wall of the orbit down to the optic foreamen and also the inner wall of the antrum of Highmore with a portion of the nasal projection of left maxilla and then attacks the sphenoidal cells and sella. Later he has modified this, resected the anterior wall of the frontal sinuses and then proceeded. Hochenegg turned down the nose, made an osteoplastic flap of the anterior wall of the frontal sinuses, removed the septum and turbinateds and the ethmoid cells. Von Eiselsberg in his first three cases resected the anterior wall of the frontal sinuses, in the next four cases he made a bone flap of the sinus wall, and in the last nine cases he omitted the frontal sinus resection or flap and proceeded to remove the septum, turbinateds and ethmoid cells after the initial incision which he made along the left margin of the nose from the gabella and deflecting the nose to the right. The sella is opened in the median line and not too far anteriorly, thus preventing injury of the carotids and the chiasma. After removal of the neoplasm drainage is introduced, nose packed with

iodoform gauze and skin sutured. Kanavel has more recently designed and employed a different method, incision being made through the naso-labial margin of the face, U-shaped, the nose turned up and entrance made into the inferior part of the nasal cavity, the septum partially removed or deflected, middle turbinateds removed, sphenoid foramina located and the interfering attachment of the perpendicular plate of the ethmoid and vomer bitten away and sphenoid cells and sella opened. The attachment of the vomer to the sphenoid is used as a guide to the median line. Mixter employs Kanavels method. Halsted, A. E., makes the initial incision in the mucosa beneath the upper lip and then proceeds through the nose similar to Kanavel. Cushing has adopted the Halsted-Kanavel route. Hirsch has introduced the endo-nasal method, operating in a number of stages, and always under cocaine, through the nose. The middle turbinated of one side is first removed, after a few days part of the ethmoid cells are removed, baring the sphenoid cells, then the sphenoid cells are resected and at a fourth sitting the sella opened tumor exposed and removed. More recently he has performed this operation at one sitting, first doing a submucus resection of the septum and vomer. Chiari's method involves an incision from inner edge of orbit along the outer margin of the nasal bone to the maxillary process, the eyeball is drawn down and outward, posterior part of nasal septum and the sphenoid cells resected and sella opened. Biehl has proposed another type of operation, exposing the base of the skull by opening the pharynx above the hyoid bone, the soft palate drawn forward, inferior part of sphenoid sinus removed and sellar floor opened and pituitary body exposed.

Halsted and Cushing have performed a preliminary tracheotomy in some cases where difficulty was encountered in administering the anesthetic.

(Rectal or intravenous anesthesia might be employed in pituitary surgery).

Von-Eiselsberg states that the entire hypophysis can hardly ever be completely removed.

Cushings cases as a routine procedure received up to 60 grains of urotropin the day previous to the operation and for several days following.

Combined partial removal of the neoplasm and radio-therapy have shown some improvement in the cases in which Cushing has employed the same.

Cushing performs a sellar decompression operation in cases with persistent headaches and to encourage the extension of a glandular struma into the sphenoid cells rather than into the cranial cavity; partial removal of a hyperplastic gland in the active stage of hyperpituitarism; partial removal of the tumor for relief of neighborhood symptoms; subtemporal decompression for relief of intracranial pressure symptoms when an intra-cranial extention has occurred; subtemporal or sellar decompression or both for more favorable application of X-rays; and suggests the exposure of the brain or of some other organ in marked hypo-pituitarism, to implant a viable gland.

RESULTS OF OPERATIONS.

First Von-Eiselsberg has operated on sixteen cases, three males and thirteen females ranging from 18 to 52 years of age, eight cases were of the Frohlich typ, six acromegaly and two a combination of both. He lost four cases, death being caused by meningitis in all cases. Beneficial results (?).

Hirsch has operated on twenty-six cases with three deaths, a mortality of 11.5 per cent. Kanavels method has been employed in thirty-two cases with a mortality of 37 per cent. Schloffer's in forty-five cases with mortality of 37.8 per cent. Cushing has used the trans-sphenoidal route twenty-nine times followed by four deaths, a mortality of 12.7 per cent.

Cushing states that the results of surgical intervention in most cases of hypophysis disease are only relief of neighborhood symptoms and palliation of increased intra-cranial pressure phenomena.

ORGANIC AND FUNCTIONAL ACHYLIA GASTRICA.

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This interesting condition of the stomach was first described by Max Einhorn as a distinct clinical entity in contra distinction to other authors who attributed the achylia as a result of a gastritis or other organic disorder.

Years ago organic stomach and bowel trouble were thought to comprise by far the greatest percentage of cases. At present we know that functional disorders are by far more frequent than the purely organic.

Disqué goes so far as to say that three-fourths of all the cases are either functional, constitutional or of purely nervous origin.

Our modern methods of diagnosis such as test-meals, stool examination, and X-ray have

revolutionized our ideas of achylia gastrica as well as other diseases.

It is important to distinguish between an organic and a functional achylia, because in the former we govern our dietetic regimen according to the condition of the mucous membrane of the stomach, while in the latter case, a regular "Mastkur," increasing the amount of nourishment as much as patient can assimilate and a general building up of body and nervous system are required.

In organic achylia there is more or less atrophy of the mucous membrane. It is often caused by a chronic gastritis or accompanies carcinoma of the stomach.

A gastritis anacida often follows a hyperacid gastritis which is often found in alcoholics and persons guilty of gross dietetic errors—using much spices, tobacco or those who have bad teeth.

Following a gastritis anacida an atrophy of the mucous membrane can cause an achylia in which the function of mucous membrane can be permanently lost and from which none or very little mucus, HCl Lab or pepsin is produced. In this condition food leaving the stomach hardly altered chemically and in a lumpy mass will irritate the mucous membrane of the intestines causing a catarrhal condition with diarrhea. The intestinal mucosa can also atrophy. In this condition according to Fenwick, Albu and others, the toxines of the intestines can cause changes in the blood leading to a pernicious anemia.

Organic achylia also occurs in old age when arteriosclerosis produces atrophy of mucous membrane; it may accompany chronic nephritis, chronic liver, heart and lung troubles, and especially tuberculosis and syphilis.

Many authorities do not think that an achylia is always caused by chronic gastritis. From present statistics it appears that a functional is much more frequent than an organic achylia.

Einhorn Albu, Wegele and others, lay stress upon the neurotic origin, while Martius contends that a weakness or lack of tone of mucous membrane of stomach (organschwäche) is principal cause (achylia aplastica, Albu).

The cause is often a neurosis, often a functional weakness of the secreting glands of the stomach.

Very often the real cause is an anemia, a change in composition of the blood. In functional achylia we have a functional change in secreting glands of mucous membrane. This is entirely different from an atrophy of secreting glands in which there is a pathological anatomical change.

If we deny the existence of a functional achylia we might as well ignore an orthostatic albuminuria, yet there is a vast difference between an orthostatic albuminuria and a real nephritis.

The functional achylia like neurasthenia can be inherited or acquired.

In the former the individual inherits a physique below par, a general weakness of the organs, or a neurotic condition.

The functional achylia can also be acquired in connection with changes in the blood or nervous system, by general lack of tone, also in anemia, tuberculosis, or neurasthenia.

In the diagnosis of achylia the test meal is of first importance. There should be none or very little mucus present, there should be entire absence or very low percentage of HCl., pepsin and lab-ferment. The combined acid according to A. Schmidt should be below 20. There may be also a deficit of HCl. There is increased motility of the stomach.

The stomach contents should not be thin or finely divided, for then we are not dealing with an achylia. On the contrary it is very lumpy, scarcely digested and often in large masses.

Often there is no tenderness or pain at all. Some cases present all possible variations in stomach and bowel pains, tenderness and distention and often pain in the stomach region, eructations and vomiting. The patient may suffer a good deal from diarrhea. It is also important to examine the feces both macroscopically and microscopically. In most cases connective tissue fibres are found. When the pancreas and intestinal function are affected muscle fibres scarcely digested and undigested nuclei are found.

The stool in the diarrhea of achylia is often voluminous and the nitrogen loss is often three times as great as in normal cases.

The differential diagnosis between chronic gastritis and achylia is often difficult.

In gastritis there is larger amount of mucus and thinner contents. The HCl and ferments are more difficient in gastritis than achylia. Also the motility in the former is not so great as in the latter and very often greatly reduced.

In the stomach contents of gastritis are found leucocytes, epithelial cells and beaker cells partly filled with mucus. These findings are found in a very small amount in organic achylia.

The differential diagnosis between achylia and carcinoma also presents difficulties. In carcinoma there is often a palpable tumor, rapid loss of strength, positive Salomon reaction, lactic acid and occult blood in stool.

In nervous dyspepsia the amount of HCl varies and constantly changes. It may be entirely absent and then again greatly increased.

In the differential diagnosis between organic and functional achylia the etiology is quite important. If patient hasn't any teeth or bad ones, or is guilty of gross dietetic errors—uses tobacco or alcohol—one must think of an organic achylia which has developed from a gastritis.

Inasmuch as an atrophy of gastric mucosa very often causes atrophy of intestinal mucosa, there follows a diarrhea of gastric origin which does not yield to dietetic treatment. In these cases if the mucosa of the intestine is found damaged in the stool examination we have an organic achylia. In diagnosis of functional achylia the history of patient is quite essential. It is important to find out if patient has been always nervous, if there is general lack of tone in the body.

In individuals with a small and long thorax, with sharp pointed angulus costalis, floating 10th rib, with dropped heart, enteroptosis, congenital defects, diastasis of recti, in hernias of youthful subjects, one should think of an inherited functional weakness of gastric mucosa.

The splashing sound in the stomach denoting atony speaks more for functional achylia.

Boas states that this is seldom found in gastritis. Enteroptosis is often found in functional achylia.

Neurasthenic and hysterical stigmata, evidence of chlorosis and anemia, marked exhaustion, neurotic pains in the gastric region, pain and distention after nervous excitement, insomnia, headaches, change in voice tones, all these speak more for functional achylia.

When stomach symptoms and diarrhea yield to dietetic regimen and general building up of health, we are dealing with functional achylia.

The prognosis is far better in functional than organic achylia. The prognosis of the acquired functional achylia like the acquired neurasthenia is far better than that of inherited constitutional origin.

The prognosis in a real atrophy of the mucous membrane is bad. The atrophied mucosa cannot be restored. This often disturbs the motor function of the stomach and causes atrophy of intestinal mucosa and then the prognosis is indeed bad.

Space will not permit discussing the therapy of achylia.

In conclusion I will outline the main facts. There is an organic and functional achylia; the latter occurs far more frequently than the former.

The differential diagnosis cannot always be established with certainty.

The etiology, the history of the patient, the symptom complex and the laboratory findings and X-ray often diagnose the case.

Neurotic stigmata, asthenia, or a general enteroptosis point more to functional achylia.

If anatomical changes in mucosa of stomach and bowel can be established by stomach analysis and that of the stool, we have an organic achylia.

The prognosis of functional achylia is better than that of organic, that of the acquired functional achylia, better than the inherited.

A DISCUSSION OF GOITERS IN 583 REGISTRANTS.

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1. ENDEMICITY OF GOITER.

In studying endemic goiter, the records from Switzerland where it appears in greatest numbers than in any other country, furnish us with much material. Kocher claims that 90 per cent. of all school children in the city of Bern are affected. The percentage varies down to 20 to 30 per cent. in Austria, Northern Italy and Germany. I believe that Michigan with its hilly country spotted with lakes, especially the Upper Peninsula, has above 50 per cent., being a close second to Switzerland. In a later communication on this subject I will add to this proof.

A most striking fact, observed by Bircher of the University of Basil at the Wells of Rapperswyl, Switzerland, was that 70 per cent. of all children born there developed goiter during the time of a certain water supply but, since this latter was changed, goiter has nearly disappeared amongst the children in that community. He also classified 13,090 cases which show males 9.8 per cent. and females 20 per cent.

Nearly all sections of the globe have some goiter. (Osler).

In 1900, France had 400,000 goiters. In

Age	Simple	Goiters Large	Goiters Toxic	Hernia	Defect of Tact	Defects of Teeth	Defects of Eyes	Defects of Ears	Heart Dis.	Defective Expans.	Varicose Veins	Marked Defective Impaired	Syph. & Bone	T.B.	N.C. case	Totals	Total Negro Goiters	% of Total Goiters	% of Diffused Goiters
18	8	1	1			1			1		2					14	19	52.6	10.5
19	47	3	7	2	2	1	3		3	3	1	7		3		76	157	36.4	6.4
20	33	1	6	2	2	3	3	1	4	3	1		1	1		61	139	28.7	5.0
21	43	8	8	7	3	9	8	1	4	5		2				98	170	34.8	9.4
32	2	1		2		2	1	1					1	1		11	11	45.8	9.0
33	2		1	2		2	1			4	1	2	1			16	20	25	5.0
34	3			3		8	3		2	3			1		1	24	39	15.4	0
35	1			1			1			2				1		6	14	14.3	0
36	1			1			1		2	4	1				1	11	14	14.3	0
Totals	140	14	23	20	7	26	21	3	16	24	6	5	6	6	2	583			
% of all Registr.	24	2.4 (Average 6.3)	3.9	3.4	1.2	4.45	3.6	0.51	2.7	4.1	1.02	0.85	0.68	1.02	0.34				

CHART NO. I.

583 Registrants examined from the registrations of June 5th, August 24th, and September 12th, 1918, of Division No. 2, Houghton Co., Michigan.

Switzerland according to Ewald, 12,277 recruits were disqualified out of a number of 300,000 annually, or 4 per cent. (Osler). In these same communications we have the study of the region about the Great Lakes in Canada, and Adami found but two to three per one thousand well marked cases, and 10 per cent. in young women. I believe this percentage must be low if there are any such numbers as we have here.

M. P. Kemp studied 425 women of the Newberry Asylum previous to 1917 and noted that 28 per cent. had goiters, 5.8 per cent. developed them since coming here, and for a period of six years 21 per cent. of the admissions had them.

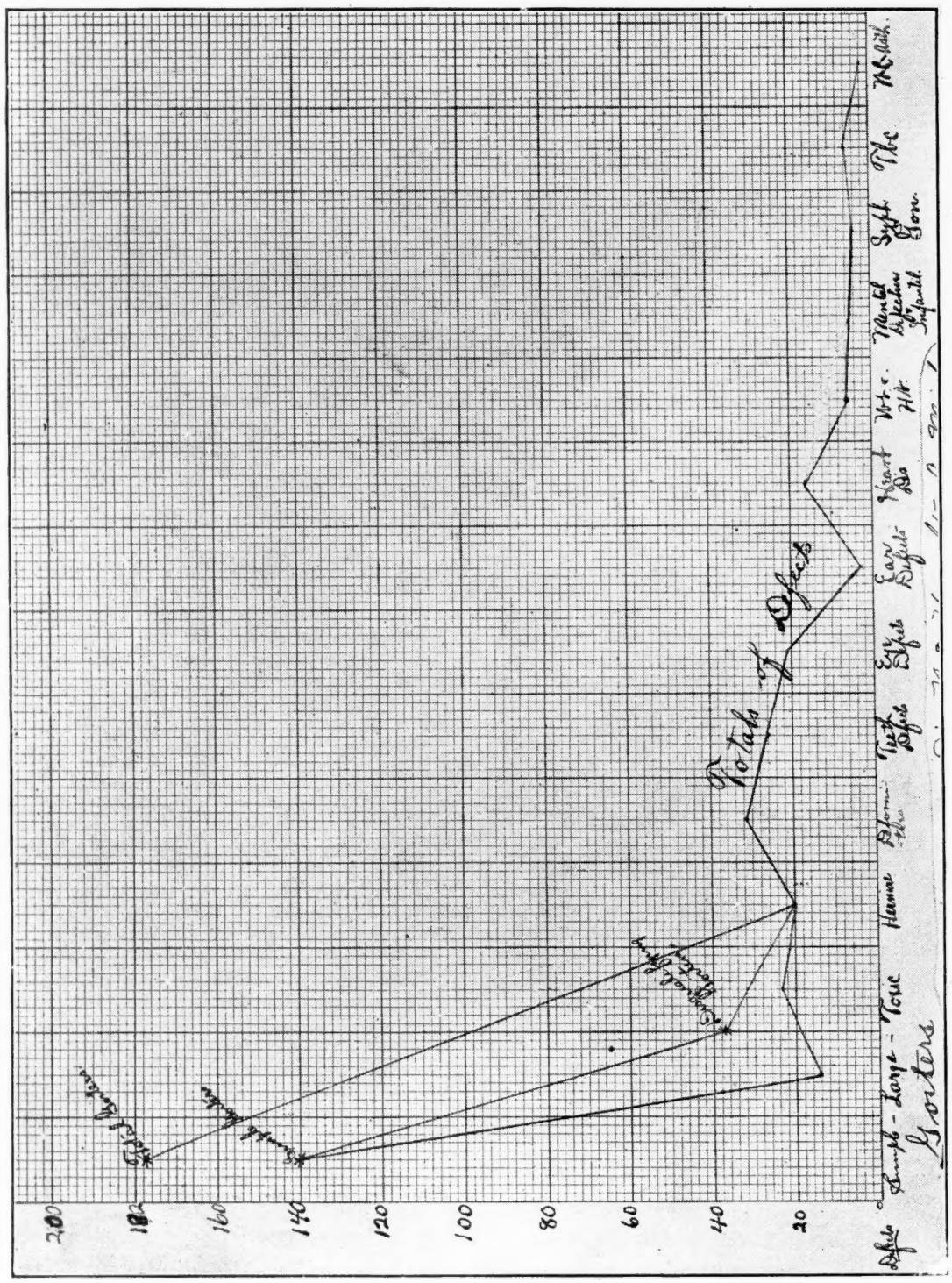

CHART NO. II.
583 Registrants examined in Division No. 2, Houghton Co., Michigan.

According to C. S. Miller's statistic, goiter is increasing in the United States. This is based on Hadilicka's statement from the United States National Museum.

2. DISCUSSION OF PHYSIOLOGY AND PATHOLOGY

In spite of much work, and study on the endocrine glands of the body in their occurrence in individuals and in communities where they are prevalent has led to conflicting hypotheses as to their function and their control of metabolism of the body. More thorough and conclusive evidence must be obtained before we can justify positive statements as to their real role in development, selection of function and causation of pathologic changes.

E. C. Kendall's isolation in 1915 of the alpha-iodin crystals and its use in cretinism and myxaedema is a good step in advance. The difficulty in the separation of this substance makes progression along this line very slow. An interesting point in the use of the substance in normal individuals bears a relation to thyrotoxicosis of hyperthyroidism, but the peculiar chronic toxicosis cannot be reproduced artificially in the normal individual. The body has ameliorating substances to offset this intoxication produced artificially, manifesting a tolerance. Therefore, not only the excessive secretion of the thyroid causes the symptoms, but also the various substances that it excites in other organs of internal secretion, that give the multiple pathology of a so-called case of hyperthyroidism or Grave's disease. To what extent the thyroid activity may be influenced by other organs in a pathological state as the thymus, hypophysis, adrenals, ovaries—will be a matter for the future study to decide.

The knowledge attained by the study of thyroidectomized animals, this effect on metabolism, (Means and Aub) and the correlated symptoms and signs in the human subject before and after lobectomy, or the various types of resections add many stepping stones to ultimate solving of the problem of the physiology and pathology of this gland.

The observation in the female who presents more likelihood of an enlarged or changed thyroid on account of her varied physiological career, shows enlarged thyroid during puberty, menstruation, menopause, and pregnancy, demonstrating the need for thyroid activity.

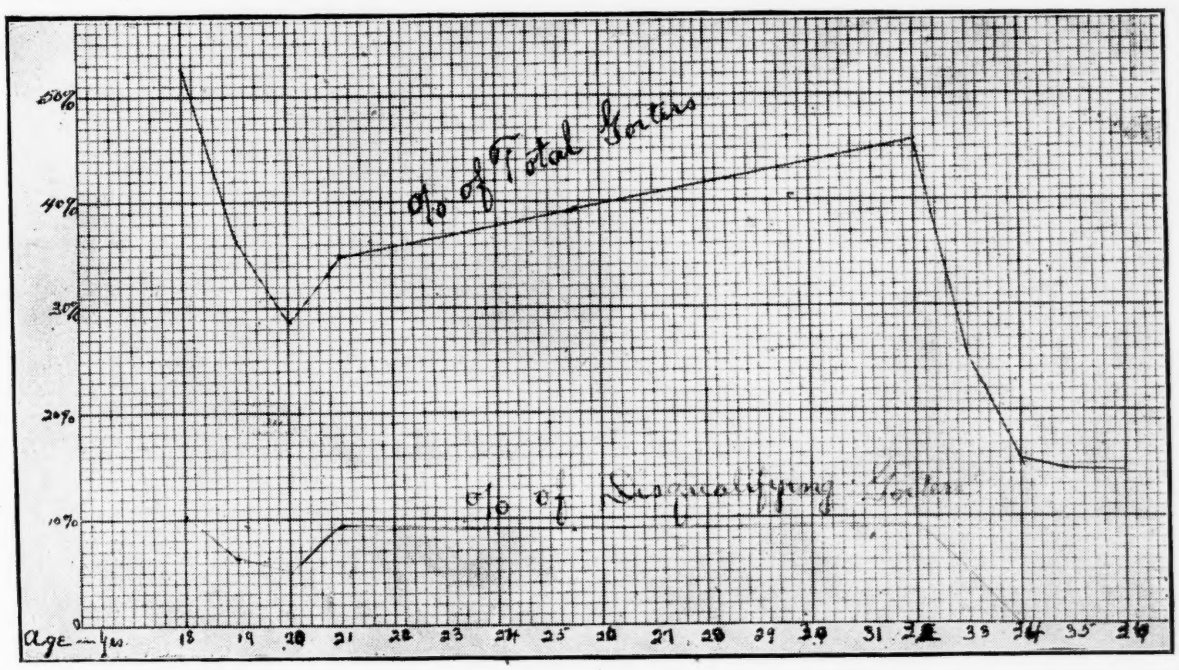

CHART NO. III.

From Tabulation of 583 Registrants examined in Division No. 2, Houghton Co., Michigan.

It was said by Dr. Charles Mayo that eclampsia resulted in pregnant women in whom there was an hypothyroidism. This is an interesting statement if not altogether accurate. The removal of an ovary may excite an attack of hyperthyroidism. All this demonstrates the need of the thyroid in development and metabolism and the interdependence of the various glands of internal secretion.

3. STUDY AND DISCUSSION OF 583 REGISTRANTS

Any grouping of large numbers of facts and records will add to the sources of supply that eventually bear fruit of ultimate knowledge. Therefore, I wish to present tonight a study of the thyroid occurrences in 583 Registrants of Division No. 2 of Houghton County, Mich-

igan. My connection dates from Feb. 23,.1918, and therefore I could only study those that came under my control from the date of my commission as examining physician to the Board. I studied and tabulated the cases that appeared at the registration of June 5th, Aug. 24th, and Sept. 12th, 1918, that were examined by the associated physicians and myself. Most of the registrants I personally saw. Their ages ranged from 18 to 21 and from 32 to 36 years inclusive.

The definition of goiter that I used was "any palpable enlargement of the thyroid gland." The pathology that gives this enlargement, of or hyperthyroidism is certainly one of the most feared conditions of disease on account of its great danger to the vital organs—as tachycardia with miocardial degeneration, mental and nervous irritability, and exhaustion, exophatholmos, weakness, loss in weight, and the various degenerations of the liver, kidney, and nervous system. The example of a patient at the height of an attack of the Grave's disease is sufficiently alarming to justify more study and care on the part of the physician and surgeon.

Even the so-called simple goiters and adenomatous goiters have the potentiality of thy-

	Male Population between 18 & 36 yrs (incl.)	Total Goiters in Males between 18 & 36 yrs (incl.)	Total Population	Total Goiters	Large & Toxic Goiters (Disqual.)
Selective Service Registration Div. No. 2 Houghton Co.	1773	537	31733	9615 +	1999 +
Houghton County	4934	1495	88098	26694 +	5550 +
Upper Peninsula Michigan	18235	5525	325628	98665 +	20515 +

CHART NO. IV.

Total Goiters and Large and Toxic (Disqual.) Goiters estimated from the percentages found in the 583 Registrants examined in Division No. 2, Houghton Co., Michigan.

course, is the basic cause for disease of this gland, and, therefore, we can classify them into four clinical groups. (Judd).

1. Simple colloid. 2. Adenomatous. 3. Toxic goiters, which are found hyperplastic. 4. Malignant.

The danger to the individual depends upon the type of goiter, its size, and position. As we know large, colloid and adenomatous masses press upon the adjacent organs of the neck, trachea, oesaphagus, recurrent laryngeal nerve, and large vessels of the neck, causing symptoms of dyspnoea, dysphagia, hoarseness(or aphonia) and cyanosis respectively. Thyrotoxicosis rotoxicosis. From the large amount of material at the Mayo clinic, Plummer drew the conclusion that 20 per cent. of all simple goiters get a goiter heart in fourteen and one-half years. Allan Graham, at the Western Reserve University, discovered that dessicated adenomata (adult and foetal) could produce the same changes as normal thyroid secretions, which gives to the simple goiter the potentiality of toxic goiter.

In my own observation I believe that the high tension produced by the war, amongst young men and also their worrying and nerve-strained relatives, whipped up many quiescent

goiters, and also excited the potential simple goiter to activity causing many cases of acute hyperthyroidism with its accompanying symptoms. I have examined and treated several of this type during the last year.

S. P. Beebe, in an article in the Medical Record of February, 1918, corroborates my own observation in this regard. As I have found in a limited number of cases Beebe has described in many camps, that many cases of so-called soldier's heart and so-called "psycopathies" were true cases of hyperthyroidism.

The large numbers of goiters strike one as a very important factor in the study of the man power efficiency, and the possible ultimate effect on posterity. As we know the goiter question rises in Switzerland to a national problem, it is incumbent on us not to disregard the issue when I will show you a percentage in thyroid defects greater in itself than any other defect. We have more goiters in males tabulated than all other defects added together. Quoting from a non-official communication to Major Peterson in August 17, 1918, I stated: "Of the 1918 class of June 5th (all of which were 21 years of age) who were born in this district, practically one-third had an enlarged thyroid gland of some degree—some definitely having large cystic, adenomatous, colloid or toxic goiters. Some of these boys have a definite decrease in efficiency from every standpoint—unable to do average mental or physical labor, having decreased mentality, or suffering from dyspnoea or a definite toxic state with the usual symptoms of hyperthyroidism."

More men were disqualified for military service according to the regulations from large and toxic goiters, than from any other defect. For instance, on referring to chart No. 1, you will see that amongst the 583 registrants examined we have 37 goiters (large and toxic), and 20 hernias, 31 total deformities of the bones and joints and 16 heart diseases. (One interesting feature shows the very low percentage of venereal diseases. This is due to the fact that the young men prepared themselves for examination by prevention and treatment, demonstrating the value of propaganda).

Of the total number of disqualifying defects, goiters stood 20.9 per cent. or more than one-fifth, total deformities next, at 17.5 per cent., hernia, 11.3 per cent., and heart diseases 9 per cent.

The percentage of toxic goiters will increase in my mind to 8 per cent. to 10 per cent. if we added to those found the men who developed toxic states later, and, also, more carefully examined heart diseases.

The deleterious effect of goiters was discovered in a small number of families of Morons whose parent or parents had very marked deforming growths of the thyroid.

It appeared in observation of my practice coupled with my tabulated cases that persons were in danger of thyroid enlargement and its associated symptoms when born in this "goiter belt." Also, persons or families who had opportunity for travel and lived in other sections of the country for any length of time each year, were less prone to thyroid difficulties.

On examination of 583 registrants, I found that 177 of that number or 30 per cent. showed a demonstrable enlargement of the thyroid, 140, or 24 per cent. of the total number examined were simple goiters, 23, or 3.9 per cent. were toxic goiters and 14 or 2.4 per cent. were large goiters of the adenomatous, colloid or cystic types of a disqualifying nature. You can readily see that these figures, by comparing the charts Nos. I, II and III, demonstrate without any doubt the importance of the goiters amongst men of our section.

In investigating the places of birth I found that of 155 men of 21 years of age, all but three were born in the section of the goiter belt. Therefore, the presence of a goiter in 95 per cent. of cases of young men marked the place of birth.

The percentage varied with ages on account of the incidence of goiter and also on the numbers examined, but the average would be a just estimate of the actual percentage.

The decreasing percentage as the registrant grew older is due to the fact that a certain proportion of older members of the community may have been born elsewhere, and that they had traveled in non-goiterous districts. Both factors make up for a decreased hypertrophy and hyperplasia of the thyroid, and argues in favor of the popular belief in some local influence from the water supply exiciting the growth.

I believe that 30.3 per cent. is a true proportion of goiters in males judging from the males examined, and that, therefore, chart No. IV, gives us percentages very close to accuracy to the number of goiters in the Upper Peninsula of Michigan and Houghton County, Michigan. Furthermore, the female, as I have said before, is more prone to the thyroid enlargement than the male. It is a known fact that

there are nearly two females to one male with goiters in the section.

I used the word disqualifying to mean cases with large and toxic goiters according to the definition in the Selective Service Regulations.

The figures when developed would be still more startling. Therefore, in Registration Division No. 2 of our County, there are 9,615 goiters with 1,999 of a disqualifying character; in Houghton County 26,694 goiters of which 5,550 are disqualifying types; and in the Upper Peninsula of Michigan there are 98,665 goiters with large and toxic types numbering 20,515.

The economic and social importance of these figures cannot be denied.

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VERTEBRAL DISEASE AS A CAUSE OF REFERRED PAIN.*

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In the examination of patients often the physician is unable to explain adequately the cause of pain. This symptom of pain is the one most readily recognized by the patient and the one most likely to bring him to the doctor. Examination of the spine will often reveal vertebral diseases as a cause of pain that cannot be accounted for otherwise. Sensory disturbances in diseases of the spine have not received the attention they deserve. Mistakes have been made in diagnosing visceral disease as a cause of the sensory disturbance when the real cause has been a pathological process in the vertebrae that has caused an irritation of the nerve roots.

Rogers and Foley in reporting an analyses of 75 cases of tuberculosis of the spine report that four cases had been considered gastro-intestinal, one had been operated for gall-stones, one for appendicitis, one for perinephritic abscess, one had a nephropexy. Blaine and others have called attention to the fact that renal and ureteral stone symptoms are often due to a spondylitis. It is apparent that a routine examination of the spine is important in diagnosing obscure lesions especially where pain is an important symptom.

In this discussion I desire to refer briefly to four classes of vertebral lesions, to report a few cases and to exhibit some slides showing these conditions. The four classes of vertebral disease are Pott's disease, malignancy, spondylitis deformans and spondylolisthesis. Tuberculosis of the spine is a frequent and well understood condition. In children it is of such common occurrence that the clinician is on the watch for this condition and seldom overlooks it. In adults the condition is also frequently present. The pathological process is an osteomyelitis usually of the body of the vertebra. By a destructive process the bone is broken down and the vertebra collapses causing the well known deformity. Pain is often an early symptom. The location of the pain depends upon the point in the cord at which the vertebral disease occurs. The pain may be in the chest or abdomen. Abdominal pain may suggest disease of the stomach, appendix or kidneys.

Carcinoma of the spine is not a rare disease. It is a metastatic process. The most common sites of the primary growth are the female breast and the uterus. The disease involves the spongy portion of the body of the vertebra. Invasion of the canal takes place rarely. Root pains are of extremely frequent occurrence and are early and troublesome symptoms. When the disease has progressed sufficiently the vertebra collapses as in Pott's disease and deformity and symptoms of cord compression occur. One vertebra alone may be involved, but as a rule the growth invades two or more adjacent vertebra. Root pains following an operation for cancer should always suggest a secondary invasion of the spine.

Spondylitis deformans is of much more frequent occurrence than is commonly appreciated. In this discussion no attempt will be made to classify this process as to etiology or types of rigidity, but all forms of spinal arthritis with bony changes will be grouped together. Prof. Elliot Smith has shown that this disease was very common among the prehistoric Nubian people. Its extreme prevalence is shown by the fact that in one prehistoric cemetery explored every adult body presented more or less extensive signs of its effects. The following brief description of the pathological changes

*Read before the Kalamazoo Academy of Medicine.

present is abstracted from Llewellyn Jones' classical description.

"The intervertebral discs undergo absorption to a greater or less extent and in some cases are entirely replaced by bone. In both the intervertebral and costovertebral articulations not only may the articular surfaces be firmly welded together, but the capsules also become ossified. Similarly extensive ossification of the spinal ligaments may also take place."

There are many symptoms of this disease that are due to irritation of the nerve roots. Oppenheim notes the occurrence of brachial, intercostal and crural neuralgia. Pains in the shoulder and arm frequently occur. Many cases of so-called sciatica are due to this process. Intercostal neuralgia and tight gripping pains across the lower thorax are often present. Girdle pains across the abdomen may be persistent and severe. Roentgenologists have often noted the frequency with which patients sent in for an X-ray demonstration of renal calculi were found to have not calculi but arthritic changes in the lumbar spine.

The fourth condition to which I wish briefly to refer is lumbo-sacral dislocation, the so-called spondylisthesis. This condition has recently been called to the attention of the profession by Darling of New York. It is a sliding forward of the fifth lumbar vertebra until it rests upon the anterior surface of the sacrum. If only one side is dislocated there is a twisting with a marked compression of the cauda and a resulting paralysis. Such cases are readily diagnosed by the severity of the symptoms resulting from the compression of the cord. In cases where both sides of the vertebra are dislocated the articular processes rest upon the anterior surface of the sacrum symmetrically and considerable space is left for the cauda. The resulting symptoms may be very mild and the condition may go unrecognized for a long time. Pain in the limbs may be a troublesome symptom. This often may be diagnosed as sciatica, neuralgia and rheumatism.

With this brief reference to these types of spinal disease I wish to report a few cases. I have purposely left out of this discussion any reference to purely traumatic lesions of the vertebrae and other conditions which may be more obvious from a diagnostic standpoint. In conclusion I wish again to call attention to the fact that vertebral disease often may be the cause of pain in various parts of the body and should be more carefully considered in cases where the diagnosis is not evident.

CASE I. Female, age 33. Chief complaints —left lumbar pain, abdominal pain. Family history negative. Has always been well until a little over a year ago. At that time had a serious illness. She had a terrible beating and pain in her back low down. At this time had a great deal of trouble with the bowels—almost an obstruction. Was in bed five weeks and had some fever. Gradually improved and was perfectly well until about six months ago. Now has pain in her back and pain and soreness across the abdomen. Of late has noticed a fullness in the left side of the abdomen. Physical examination: Is thirteen pounds below her normal weight, looks well and has a good color. In the left lower quadrant of the abdomen is a mass that is boggy. Dullness over this mass, but not much tenderness. The spines of the lower thoracic vertebra are prominent and there is some discoloration of the skin over them. The blood, urine, and stomach contents are normal. X-ray examination was negative except for a well marked evidence of tuberculosis of the last dorsal and first lumbar vertebrae. Diagnosis: Pott's disease with a psoas abscess.

CASE II. Female, age 56. Housewife. Chief complaint—pain in back and left groin. Has pain in both feet. Six months ago had attack of lumbago. Has had a weakness in back since. A few weeks later a kyphosis was noted by her physician. Two years ago had a radical breast amputation for cancer. There has been no local recurrence. Physical examination: Some deformity of lower thoracic spine. Moderate enlargement of thyroid. Blood-pressure 170/95. Patellar reflexes exaggerated. Blood shows moderate secondary anemia. Urine normal. X-ray shows a marked destruction and compression of the first lumbar vertebra. Diagnosis: Metastatic carcinoma of the first lumbar vertebra.

CASE III. Male, age 40. Occupation, varnish rubber. Chief complaint—thoracic pain. This pain comes on in the evening after a days work. Comes on as a rule when he sits down. Has no cough or dyspnoea. Feels good except for pain through the chest. He was operated three and one-half years ago for appendicitis. Physical examination shows a mitral insufficiency and a mouth with extensive pyorrhoea. Blood-pressure 115/72. The blood showed a moderate secondary anemia and a negative Wassermann. The urine is normal. X-ray examination showed no evidence of thoracic disease except a very moderate cardiac hyper-

trophy. X-ray examination did show well marked spondylitis deformans of the thoracic spine as evidenced by lipping and in one case an actual bridging between the vertebrae. Diagnosis: Spondylitis deformans.

CASE IV. Male, age 40. Occupation—factory foreman. Chief complaint—pain below left shoulder blade. This began about three months ago. The pain is increased by deep breathing, sneezing and coughing. His back is stiff when he wakes up in the morning. Has had repeated attacks of tonsillitis and two Neisserian infections. Had tonsils removed on account of rheumatic symptoms about one year ago. Physical examination: Systolic murmur at apex. Slight evidence of pyorrhoea about two or three teeth. Blood pressure 110/78. The blood and urine are negative. Wassermann on blood and spinal fluid both negative. X-ray examination negative except for a marked lipping in the thoracic spine. Diagnosis: Spondylitis deformans.

CASE V. Female, age 57. Restaurant keeper. Chief complaint—pain in left upper quadrant of abdomen. The pain is constant and is progressively worse. Has no relation to the ingestion of food. The pain sometimes radiates into the left groin and hip. Physical examination negative except for a considerable degree of pyorrhoea. The blood shows a moderate secondary anemia and a negative Wassermann. The urine and stomach contents are normal. X-ray examination negative except for a marked lipping and bridging between the thoracic vertebrae. Diagnosis: Spondylitis deformans.

CASE VI. Male, age 66. Farmer. Referred on account of symptoms of right renal calculus. History of passing gravel. Physical examination negative. Urine normal. X-ray showed a marked spondylitis deformans of the lumbar spine with no evidence of renal calculus.

CASE VII. Male, age 36, occupation, engraver. Chief complaint—disturbance of motor control of legs and feet. Fifteen years ago had trouble with walking, some pain and numbness in limbs. This was relieved when he was off his feet. Was off his feet for a year and was very much improved. About nine months ago began to have some pain in the back. Has some weakness in his feet and legs, especially the left. Has noticed that he cannot flex toes on left foot as perfectly as on right. Has had some pain in the legs but none at present. Physical examination: Slight flattening of left chest. Left scapula much more prominent than the right. Right patellar reflex exaggerated. Some impairment of sensation in right foot. No ankle clonus. Marked scoliosis of dorsal spine. A lordosis in lumbar region. Stands with left side of pelvis tilted upward. The blood Wassermann is negative. The urine contained a little pus. X-ray plates of the lumbar spine showed a complete forward dislocation of the fifth lumbar vertebrae. In the thoracic region the vertebrae were rotated and showed a marked scoliosis. Diagnosis: Spondylolisthesis.

These seven cases serve to illustrate the types of cases to which I have referred. Case I, a case of Pott's disease, was referred particularly on account of abdominal pain and a mass in the left abdomen. Case II, malignant disease of the spine; had pain in the groin and feet. Cases III and IV had thoracic pain as the most striking symptom. Case V complained of pain in the left abdomen. Case VI illustrates the finding of a spondylitis deformans in cases referred for urinary calculus. Case VII illustrates the rather interesting condition of complete lumbosacral dislocation with only mild disturbance of the motor functions.

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DISCUSSIONS.

DR. A. W. CRANE: This subject has been monopolized by the osteopath. Physicians have been reluctant to speak of diseases of the spine for fear of having the appearance of quackery. The subject has been almost untouched, but it is surprising how frequently referred pain will mislead in diagnosis.

Dr. C. E. Boys reported a case which illustrated the topic of the paper in a patient who had the clinical picture of disease in the left kidney but which proved later to be an early Pott's disease, so early in fact, that the X-ray showed no destruction of the vertebrae. The diagnosis of Pott's was made from the appearance of a bunch in the region of the left kidney, from which was aspirated pus which caused general tuberculosis when injected into a guinea pig.

Dr. Penoyer spoke of the danger of manipulation in these cases and that we should fight it. Told of a case with pain in testicle which went to an osteopath. Pain was severe and only controlled by morphine. Was above the lower dorsal region and did not diminish, as he got up had kyphosis. Went to Ann Arbor and was diagnosed arthritis deformans. Sinuses developed and there were several

tablespoonsful of pus which came out after manipulation by an osteopath. Question came up as to injury by manipulation breaking down the abscess wall.

DR. ELLSWORTH: One of the cases demonstrated was one of hers. Was previously treated by an osteopath and made worse by treatment. Pain in stomach and epigastrium was suggestive of malignancy. Treatment suggested by Drs. Crane and Jackson was to treat the anemia. Patient improved and later could continue her usual duties.

DR. JACKSON: The treatment of these cases of spondylitis deformans is very discouraging. Dr. Ellsworth's case was unusual. Most of them do not get better after deposits have taken place. Can see nothing but injury by osteopathic manipulation. In Dr. Penoyer's case it may have been made worse by vigorous manipulation which broke up the bony formation. In treatment we should clear up focal infection. This may arrest some cases. Treatment is hygienic. Treatment of Pott's disease offers much more encouragement than other forms described.

TREATMENT OF EMPYEMA.*

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The great increase in the number of patients with empyema, which followed the streptococcus epidemic of 1917-1918, and after the influenzal pneumonia of the autumn and winter of 1918, has greatly brought to the attention of the medical attendant, the best and quickest method of handling this disease, so that the patient will get rid of this pus pocket at the earliest time.

Not only is this essential for the life and immediate health of the patient, but for his future welfare as cases with diseased sinuses or with thickened exudates and small pus pockets are especially prone to myocardial changes, also amyloid degeneration of the kidneys and liver and chronic nephritis.

Therefore, in order that the patient has the full benefit of the best surgical treatment it is of the utmost importance that the diagnosis be made as early as possible.

Clinical history is very important, while following pneumonia, the temperature usually falls to normal and after a few days, rises usually accompanied by profuse sweating.

Diagnosis: Physical signs. Are those of pleurisy with effusion, immobility of some degree of the affected side.

Obliteration of intercostal spaces.

Shifting of apex beat, depending upon the amount of fluid present.

Diminished or absent tactile fremitus.

Diminished or absent vocal fremitus, although in children vocal fremitus may be retained in the presence of considerable effusions. Dullness or flatness on percussion.

Lying on affected side, causes cough and impaired respiration, upon change of position, especially upon lying on normal side. Blood counts are of much value in diagnosis, differentiating from sinyle effusion.

X-Ray is of great value in diagnosis, and should be used as routine when possible. It is especially valuable in differential diagnosis between saculated empyema and abscess of the lung, and is more valuable to show the extent of empyema than any other diagnostic aid.

The aspirating needle should always be used for a positive diagnosis and if pus is obtained a smear and culture should be made as the treatment of sterile and non-sterile pus collection would not be the same.

The aspirating needle is not without danger as a member of deaths have been reported following this procedure. When the physical and other signs warrant it, the point of choice should be either in the sixth intercostal space in mid axillary line or at the outer angle of the scapula in the eighth space. The arm of the patient should be brought forward with the hand on the opposite shoulder to widen the space between the ribs. The needle should always be thrust in close to the upper margin of the rib to avoid puncturing the intercostal artery.

Oftentimes the pus is not obtained on account of small size of the needle which will not allow of the escape of thick pus and because the needle is not thrust in far enough.

When the condition of the patient is not good, best evidenced by the general condition, especially pulse rate, great relief may be obtained, by the aspiration of a few ounces of pus. It is of the utmost importance that the pus should be evacuated slowly and in many cases the patients have recovered by repeated aspiration followed later by rib resection, which would have ended fatally if rib resection had been performed at first. A local anesthetic is sufficient for this procedure.

In some cases whose condition is such that only the slightest operative procedure can be performed, we have found it very satisfactory to use a small trocar, and after withdrawing the trocar, insert a small catheter. The catheter should always be pinned with a safety pin

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to avoid it being drawn into the pleural cavity. After a few days drainage from catheter, which may be clamped at will depending upon the condition of the patient, these desperately sick patients, improve, so that a rib may be resected with safety, when such is the plan. Local or gas-oxygen is the best anesthetic for operations of all cases of empyema.

A majority of the cases of ordinary type of empyema get well, provided that free drainage is obtained, at the lowest possible point of the abscess cavity.

All such drainage should be made so that it will be best when the patient is in the recumbent position.

In children recovery will follow proper drainage by puncture and drainage between the ribs without the rib resection.

After rib resection it is best to explore the cavity with the finger when possible as in some cases the exudate found may form pockets and the reason convalescence is delayed that these septa have not been broken up.

It has not been thought necessary to irrigate these cavities at the time of operation or subsequently in ordinary cases.

Drainage Material: Rubber tubing has appeared to be the best material for drainage, this should be of fairly soft rubber, as it may cause irritation to the expanding lung. Two tubes of ¼ inch diameter are often better than one of a larger diameter, and we have used a double tube so that the smaller will slip inside the larger one. The inner tube may be removed every day or two, cleaned and reinserted, as in the case of tracheotomy tube.

Gauze strips are often used along the drainage tubes to prevent the too rapid escape of pus.

Length of Time Drainage Tubes Should Be Left In Situ: No rule can be laid down as to how long the drainage tube should be left in for drainage, usually we remove the gauze about the fifth or sixth day. The tubes may be shortened so that about one-half to one inch will project inside the chest wall after a week or ten days, to allow for the expanding lung.

Whenever possible a second X-ray examination should be made about this time to note the lung expansion. This with the general appearance and clinical record must be our guide regarding removal of the tube. Drainage tubes should be soft so as not to injure the lung.

Tubes are seldom removed before three weeks, but great care must be used by leaving a tube in too long a time, as such causes irritation to the expanding lung and keeps up the drainage.

As the pus decreases in amount the patient must be taught to expand the lung of the affected side. This may be done by such arrangements as with Wolff's bottles or by the patient sitting in an arm chair and with the hand of the affected side firmly compress the sound side of the chest against the side of the chair and while the normal side is immobilized make forcible inspirations.

In a considerable number of cases especially of long standing, the pus cavity persists and a sinuse follows which refuses to heal, or heals only after a long period of time.

In some such cases will follow the use of Becks' paste, but in many cases a cure can not be obtained by any such method.

New Methods: Following the epidemic of 1917-18, much work has been done on this subject, by individuals and by empyema commissions.

Especially has this been true in the Medical Department of the U. S. Army, where the opportunities for such studies have been better than could be obtained in private practice. While no standard of uniformity has been obtained by these reports and while it must be very evident that too much stress should not be put on this or that form of treatment, taken from published reports as the virulence of the inciting cause, differed in the different camps, and slight differences of detail in technique may tend to influence the end results.

The principal to be obtained is to get a complete cure as quickly as possible, by following a specified technique or by a combination of methods.

In some cases good results have followed simple repeated aspiration, under strictly asceptic precaution, of the contents of the cavity, following this with the injection of Dakin's solution. Care is made that as little air as possible will enter the cavity during such treatment. At the first aspiration a small catheter tube is used and it is by this means that the aspiration is performed and the Dakin's fluid injected. As a rule the aspirations and injections are made from every four to six hours, a somewhat smaller amount of Dakin's solution being used than the amount of fluid aspirated. In reports made this method has apparently hastened the period of convalescence. This method aims at the sterilization of the abscess cavity and by the gradual aspiration of the pus allows for this normal expansion of the

lung. Several reports have been recorded, of hemorrhage following the irrigation with Dakin's solution.

Mozingo—at Walter Reed Hospital has reported very favorable results by a closed method.

A tube is inserted through a trocar and pus is aspirated and Dakin's solution injected, using care to prevent the entrance of air. These aspirations and injections are given every two hours during the day and three hours at night, after from five to seven days the cavity is usually rendered sterile. After the cavity is sterile a solution of 2 per cent. formalin in glycerin injection in amounts from three to 40 cc. but first washing out the cavity with Dakin's solution.

Care should be used in large cavities not to use more than 10 cc, of formalin solution on account of occasional severe re-action. The formalin injections are usually not made more than once in 24 hours, and before the injections are made, aspiration is performed. The results from such treatment would seem to indicate that this treatment tends to rapid sterilization of the abscess cavity and thereby shortens the sick period. Probably the most important factor in this form of treatment is that the Dakin's solution helps to dissolve the exudation which compress and fix the lung, and thus enables the lung to expand.

At the Rockefeller Institute the Carrell Dakin. Principals of wounds as carried out in the treatment of empyema.

The usual surgical procedures are carried out as rib resection, and the Carrell tubes inserted in different paths of the abscess cavity. Silver wire is placed in the tubes to stiffen them so that they may be carried to any desired part of the cavity so that all parts may be sterilized. The principal of early sterilization and closure is applied here as in the treatment of septic wounds elsewhere. No drainage tubes are used and gauze packing is placed around the tubing to prevent the too rapid escape of the hypochlorite solution.

The immediate region of the wound is protected with vaselined gauze to protect the adjacent skin.

Formula is vaseline 91 parts; paraffin, 6 parts; resin, 1 part.

The wound is injected every two hours during the day and three hours during the night.

The Dakin solution is markedly irritating to normal pleura, but is not to inflamed pleura.

Smears and cultures are made every two or three days and when the culture is negative for two or three consecutive days or when the bacteria are not more than one or two to five fields the wound is closed.

There is no doubt in the usual empyema by the careful administration of Dakin's solution, properly given that the cases go on to more rapid recovery than if drainage and no Dakin's is used.

It must always be borne in mind that efficient drainage is always a great factor in the nearly recovery of these cases.

Treatment of Old Empyemas: With continued symptoms or persistence of pockets or sinuses.

This is a very important field and a very attractive one to one interested in thoracic surgery. Many patients have become chronic invalids on account of non-healing cavities with its attendant lung fixation. Not only is the local chronic infection a grave one, but the damage in the organs due to long, continual absorption are conductive to permanent ill health.

A careful clinical history with X-ray examination should be made upon every patient with chronic empyema and attempts made to obliterate the cavity by means of lung expansion rather than operations to collapse the chest wall.

A thorough test with Dakin's solution or formalin with glycerin, or Bismuth paste, should always be made before attempting operative procedures.

After a month or six weeks of effort in this direction if discharge still persists and improvement is not continuous, it may be well to consider surgical means to remove the exudate which prevents the expansion of the lung. It will usually be best not to attempt this type of surgery until thorough drainage has been established and attempts have been made to sterilize the cavity.

It is best not to do the operation until after six months or longer after the first operation.

After carefully locating the cavity, as well

as possible, an operation performed with the object in view of removing the thickened exudate should be made. This will be best performed by thoracotomy performed by means of spreading the ribs, removing the exudate and using care to injure the lung as little as possible. As the exudate is removed the lung will be seen to expand often immediately and fill the cavity formerly the site of empyema.

After the removal of the exudate the wound is tightly closed with a small rubber catheter inserted through a stab drain to take care of any small oozing. Aspiration may be performed every few hours through this tube which should be removed as early as possible.

By such thoracotomy, operations, many cavities will be entirely and permanently healed.

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MICHIGAN'S CO-OPERATION WITH THE GOVERNMENT IN THE VENEREAL DISEASE PROBLEM.*

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It is my desire to discuss, in an abstract way only, some of the government program in its attack on, and control of, venereal diseases in the army and civilian life of our state.

Medicine and surgery are most vitally related to the international events of the day. The army and navy have our best men, and the best of the profession, in their ranks, hospitals, and consultant service. The fact that the army of no other nation except America has so rapidly reached that high plane of efficiency demanded by modern warfare is due largely to the efforts of the medical profession. Upon them has fallen the task of selecting which of this country's boys were best able to withstand the hardships of modern warfare.

This means that every man enlisted in the United States army must be in good physical condition, the first requisite of any soldier. Without this physical fitness, he can not become a part of our army or navy. After being assigned, he is protected by every sanitary medical measure against disease. He is taught that it is his patriotic duty to keep well as sickness means inefficiency and the weakening of his division. Every man, from private to officer, in every branch of the service, has been carrying on a post-graduate course of intensive education unequaled in civilian life. The result has been a surprise to the civilized world. America's melting pot army, made up of the fighting blood of every nation, is becoming a clean health army for liberty.

This country has demonstrated that it can well afford to stop its storing of great wealth, its bathing in luxury, to muster a great army for a short period because of what it has already attained in this broad education of its boys, especially the education in the prevention and transmission of venereal diseases.

In 1912 Congress passed a law to the effect that any soldier who was unable to perform his duties on account of venereal disease should forfeit his pay during that period and be kept under strict quarantine. This law was the outcome of the loss of men from active duty through venereal diseases, which comprised about one-fourth of the total sickness. It will be readily seen from this that the United States Public Health Service had taken definite steps in the control of this sanitary problem long before this country entered the late war. It is an accepted fact that our nation has learned and profited much from the mistakes of the other warring nations. This is particularly true regarding the prevention, treatment, and control of venereal diseases in the army. In the first two years of the war, the French and British armies showed the usual high percentage of venereal diseases and invalided thousands of trained men to the large venereal disease hospitals of both countries. Furloughs were allowed and spent in London and Paris where the uniformed man was the prey of the taxi-cab driver and prostitute until his pay check was exhausted when he returned to the ranks with a venereal infection which prevented his returning to active service.

The United States army and navy admit men with gonorrhea and syphilis to the cantonments for the reason that the soldier with venereal disease can be just as well, or better, treated in the service, while the strict quarantine prevents his spreading the infection, and after vigorous treatment he is further educated in prophylaxis and continence.

These military regulations for prevention, punishment, quarantine, and hospital treatment place the army and navy in a much higher health status than the civilian population. It has been so short a time since the uniformed men of the army, and more especially the navy, represented, and were, our greatest carriers

*Read before the Detroit Academy of Medicine.

and transmitters of venereal diseases. The tattooed mark of the sailor was considered to be a manifestation of a venereal infection by some clinicians. Today, under the new medical regulations, the United States uniform represents, and is recognized by the civilian population as representing, a part of the healthiest, cleanest body of men that ever filled the ranks of any army. The fathers, mothers, wives, and sweethearts of our boys now know that this country has set about to protect them against disease, both in their training camps and overseas. The weekly reports of the small percentage of venereal disease in the cantonments show a decrease of one-half over last year. The protection is not perfect, but it is coming nearer by leaps and bounds and I believe that I am safe in predicting that no soldier will be given an honorable discharge when the war is over if he has a communicable, contagious disease. This is the only means of preventing what has occurred in the disbanding of all armies, an appalling dissemination of venereal disease. No other nation has taken this opportunity and other countries are seeing the great scourge spread with a rapidity it could never gain except following a great war. For we know that infection acquired by the soldier in a foreign land by a strain from a foreign blood represents the most virulent type of the disease and results in infection of the innocent.

The health status of the civilian population is, as has already been said, far below that of the military. Therefore, the gigantic task before the nation and state is to eradicate, as far as possible, venereal disease and its carriers, so that we can continue to prevent infection when our soldiers return. You will all recall the discussion attendant on the first steps taken in this direction by the Surgeon-General and his Medical War Council, which the State Boards of Health were commanded to enforce. Michigan is most fortunate in its present governor, who selected the personnel of the State Board of Health, for on this Board are men of international reputation who, while hourly guiding the health of our new army, have given time to place our state in the front rank in this great health problem. The proof of this latter statement is best shown in the fact that not one, but several, secretaries of other state boards have been sent to Lansing to investigate Michigan's system in this new preventive measure.

War measure hospitalization of the irresponsible, mentally deficient, female venereal carrier has afforded an opportunity far in advance of any hospital care given this class hitherto. It is observed because we now have complete quarantine of the most dangerous of communicable contagious offenders.

During the hospital care we carry on intensive primary treatment of one or both venereal infections; about 60 per cent. having double infection. Appreciating the injustice, as well as the waste of valuable time and hospital expense, of forcing individuals to submit to treatment for syphilis when it did not exist and the greater injustice of failure to detect the disease when present, which has been the frequent mistake of all general hospitals in the past, the secretary of the State Board of Health and the heads of this hospital service have held several joint sessions to formulate a standard system of diagnosis and treatment. The result was a standard laboratory examination and clinical diagnosis, rechecked in every case to definitely exclude error, for the future of the syphilitic rests absolutely on the medical adviser.

The heads of the different departments are especially selected for the work and have at their call the special medical and surgical services of the hospital. The surgeon consults upon the removal of the pelvic appendages in extensive gonorrheal infection, it being impossible to cure some cases without this assistance. The dental department care for pyorrheic teeth before instigating mercurial treatment, a necessary precaution to prevent disagreeable mouth conditions and a decided handicap in medication. The oculist is consulted daily and there are always patients on the waiting list for tonsillectomys.

Every patient is also examined by a psychologist and classified. It is most startling to note that 84 per cent. of the patients are mentally deficient. In addition to this, a secretary of the Social Service department takes a social history, which is most valuable in placing the patient in the right position and surroundings when she is discharged from the hospital.

While in the hospital, the time of these patients (unless confined in bed) is scheduled for different work. Idleness or loafing is not encouraged. Every girl must go for her own meal tray; no one is allowed to bring it to her. Patients care for their beds, do their own laundry, work a certain time daily in the Red Cross Work Room, receive instruction in physical culture and in vocational training. Through the interest of one of our hospital trustees, a

branch machine shop has been added to the latter. During their training and treatment and on their discharge, they receive twenty-six cents per hour. The result is that they go out from this service with a bank account and a position awaiting them. Nor is the social life neglected. In the evening there are entertainments conducted under the auspices of the Young Woman's Association. Their reading material is also carefully selected.

A numbered duplicate discharge certificate with a recommendation for further observation and treatment is filled out; one copy of which remains with the history, another being sent to the State Board of Health, and the last to the doctor in the social service zone in which the patient lives. Here the patient is placed under the care of the social service department of the hospital and state. She is furnished with clothing, placed in a home in a position to earn her livelihood, and requested to report periodically to the social service clinic. The mentally deficient are sent to institutions.

Many must continue treatment and in order to prevent loss of time and oftentimes loss of position, a night clinic is now connected with this service and we are gratified to report upon the great success of it. It is not only paying, but has a surplus. This surplus is being used to obtain more equipment for industrial training. This, therefore, is a hospital and a school and the results are showing a yield many fold beyond our expectations.

We are greatly assisted in other ways than those hitherto discussed. State prohibition is, without doubt, of the greatest assistance in the work, and the unheard of opportunities offered women to fill the place of men at independent wages. What little will power this class possesses is no longer destroyed by alcohol and the increased wage affords what a large percentage crave, good clothes and independence.

This is a little of what Michigan has started in the attack upon the greatest scourge of our land. Our governor and his State Board, while abreast of any other state in this country in this problem, must have our support in this drive to render the civilian population of our state uninfectious, as far as possible, to our boys as they return.

The following report from the psychopathic classifications of three hundred infected females given by Dr. Perkins is most convincing regarding what is to be the care as well as the treatment of this class. Of this number 43 per cent. were feeble-minded testing ten years or less; 24 per cent. were feeble-minded testing ten to 13 years; 2 per cent. were epileptic; 2 per cent. were insane; and 13 per cent. psychopathic. That is, 84 per cent. of the three hundred were atypical. Of this percentage, 64 per cent. were recommended for institutional care, but only 4 per cent. were admitted because of lack of space, leaving 60 per cent. to be turned back on the community.

This nation knows, through these statistics and reports from state institutions, the price it has paid for its licensing of the wide-open town with its liquor and sex self-indulgence. The annual expenditure of this state for the hospitalization, prophylaxis, and education of the venereally infected is saving the state, in the prevention it affords, the far greater expense of institutional care for the permanently hopeless syphilitic.

National prohibition and national control of habit-forming drugs are not far away. Institutional care of the mentally deficient and education in regard to the dangers and disgrace of venereal diseases are regulations that are sure to bring the civilian population up to the standard now being taught in the army.

Kresge Medical Bldg.

The Quality of the Market Supply of Procaine.—The local anesthetic procaine (first introduced as novocaine by the Farbwerke vorm. Meister, Lucius and Bruening, Hoechst, A. M. Germany) is now manufactured by the Abbott Laboratories, the H. A. Metz Laboratories and the Rector Chemical Company. The products of these firms were accepted for New and Nonofficial Remedies after the A. M. A. Chemical Laboratory had reported specimens chemically satisfactory and the Cornell Pharmacologic Laboratory had determined that they were not unduly toxic. In accordance with its announcement to report from time to time on the quality of American made synthetics, the Council on Pharmacy and Chemistry now publishes a report on the quality of the procaine now supplied to physicians. The examination demonstrates that the three brands were of a satisfactory quality. Some of the specimens of procaine-Abbott and procaine-Rector had a yellow or light brown tinge (a specimen of procaine-Metz "novocaine" recently sent the Council also had a slight yellow tinge), but so far as the evidence goes there is nothing to indicate that the discolored specimens are seriously impure. The Council considers the use of the discolored product justified in the present emergency, but urges that for the future a colorless preparation be supplied. (*Jour. A.M.A.*, Jan. 11, 1919, p. 136).

Transactions and Reports of Detroit Clinics

CASE HISTORIES.*

FRANK R. STARKEY,

Clinical Professor Nervous & Mental Diseases, Detroit College of Medicine & Surgery; Visiting Neurologist St. Mary's Hospital.

The following cases from my service in the neurological department of St. Mary's hospital are reviewed here, because of their individual interest and for the purpose of showing the richness of the clinical material available for study and teaching in this clinic, rather than any attempt at detail in so limited a space. They have, however, all been thoroughly studied.

CASE NO. CCXCIII. Italian, age 35 years, laborer. This patient was brought to the medical service of the hospital in an ambulance in an extremely helpless condition and was transferred to my service by Dr. Walter Wilson. He had quadriplegia, was utterly helpless in all four extremities, had double wrist drop and had, what appeared to be, atrophy of the small muscles of the hands, complained of pain in lumbar region and general weakness. He was so helpless that he had to be fed by the nurse.

Past History.—Denies previous illness of any kind.

Family History.—Impossible to obtain.

Present Illness.—Patient states that ten days ago he was unable to work due to weakness, had no pain, for three days confined to room but not to bed, had some fever, was able to eat. On the third day was up and around and about 6:30 that evening he fell over unconscious and remained so until the next day about noon. Came into the hospital the next day. Upon closer questioning it was discovered that patient had been out to a social affair, where eating and drinking were indulged in freely, the night before the onset of the present condition and that his statement as to fever was simply his own opinion. His temperature really was not taken and that his statement concerning his unconsciousness was incorrect. There was no actual loss of consciousness.

Examination.—Thin, swarthy Italian with very brown skin, especially of hands which were also decidedly thin and tendons on backs of same prominent; pronounced double wrist drop; inability to approximate thumb and little finger of either hand; all other movements can be performed under urging; grip very poor in each hand, unable to grasp or hold objects in either hand; pupils equal and regular, react to light and accommodation, ocular fundi normal; knee jerks increased on both sides; no ankle clonus or Babinski; sensation of all kinds normal; bladder and rectum normal. Upon asking patient to perform various movements of arms, hands and wrists, he always pleaded it was impossible to do so, but upon urging did perform with difficulty movements requested. Although it was impossible for patient to flex his arm except very feebly, when the arms were flexed by the examiner and the patient instructed to resist extension, it was found that his resistance was so strong the examiner could not overcome it. When asked to sit up, stated that he could not, but upon urging did so but pleaded inability to stand but was finally, by urging, able to get up and sit on a blanket on the floor where he remained apparently helpless but upon strong urging got back to bed without assistance. Course of nerves not painful to pressure; pulse 78; temperature 98.5; blood pressure, sys. 130: dia. 100; Wassermann negative; Urinalysis, amber clear, acid, spg. 1018, fine trace albumin, sug. neg., micros. good many hyaline and granular casts, few pus cells. In the diagnosis of this case there were five conditions to be considered and excluded as follows: Based upon the patient's statement when he entered the hospital, apoplexy, because the condition was bilateral, which is very rare in cerebral hemorrhage and because the symptoms were not progressive, which would be apt to be the fact if a hemorrhage large enough to produce such extensive symptoms occurred. There was no apparent shock and no disturbance of blood pressure or pulse rate. Anterior poliomyelitis, because reflexes were prompt rather than diminished and the weakness was more apparent than real. Multiple neuritis, by lack of pain over the course of various nerves. Syringo-myelia, by presence of pain and tem-

*Cases exhibited before Wayne County Medical Society.

perature sense and absence of atrophy or trophic disturbance. Amyatrophic-lateral-sclerosis, by absence of fibrillation or hyper-reflexia in general, together with absence of atrophy. This leaves hysteria, alone, which is supported by the facts in the case. This patient, as stated above, had been indulging rather freely in excessive eating and drinking and his gastro-intestinal tract became disturbed, he developed lumbago and vertigo, he became so dizzy that he lost his balance and, being of the Italian race which is noted for emotionalism, concluded he must be paralyzed or he would not fall since he was not drunk, therefore, he immediately proceeded to become paralyzed and developed the helpless condition described above. By psychotherapy he was able to leave the hospital fully recovered, within ten days after treatment was instituted.

CASE No. 5215. Boy, age 8 years, marked purposeless movements; four weeks ago influenza; three weeks ago chorea began; born at term, instrumental labor; breast fed one year; one tooth at nine months; walked and talked at same time, sixteen months; commenced school at seven years; always sickly child.

Past History.—Whooping cough one year ago; scarlet fever two years ago; pneumonia two years ago; measles at two years; bronchitis in infancy; second of five children, one died cause unknown, others rather thin; aunt on maternal and paternal side each had chorea; paternal cousin also had it; maternal grandfather died of cancer.

Examination.—Tachycardia, arythmia, myocarditis. This is a typical case of Sydenham's chorea and bears out thoroughly my oft stated opinion that this condition is engrafted upon a neuropathic base, fundamental defective germ plasm. His birth was retarded and his development in every way was also tardy and his family history was distinctly neurotic. He had as great a burden as he could carry to meet the ordinary vicissitudes of life and when the added burden of influenza was placed upon him his muscular and nervous equilibrium were temporarily disrupted and chorea resulted. The same result might have been produced by any other infection, or emotional or traumatic shock. Under rest, arsenic and salicylates complete recovery occurred.

CASE No. 764.—Female, age 35 years, one child 8 years, no miscarriages.

C. C.—Involuntary movements of head, arms and body, sometimes of legs and feet; nervousness; asthenia; tendency to fecal incontinency; impossible to hold objects in hands; walks in sleep; restless; headaches; onset three years ago; progressively worse.

Past History.—Tonsilitis, measles, chicken-pox, whooping cough, ovarectomy, gonorrhea, leuchorrea, appendectomy, retroverted uterus (corrected at operation).

Family History.—Father had chorea, beginning in early manhood, lasting until death at 65 years. During course of his chorea he became progressively demented. Mother died at 42, cause unknown; paternal grandparent to the fifth generation, paternal aunt and several cousins had this same form of chorea, which resulted in mental deterioration and death, and patient states, her mother told her several other members of the family were similarly affected.

Examination.—Well nourished female with happy expression and choreiform movements; inclined to be verbose; distinctly euphoric; pupils equal, normal in reaction, eye grounds mottled, rather gray in color; pyorrhea; swollen, inflamed tonsils; chronic rhinitis; cardiac arythmia; all reflexes exaggerated; slight Romberg.

Diagnosis.—Huntington's chorea. Prognosis in this case decidedly unfavorable and treatment of no avail, although the patient is confident and satisfied she is constantly improving. Her happy state of mind is due to gradual shading off of mentality, as this disease is due to a gradual degeneration of the cortical cells and those of the gray nuclei.

CASE No. 5054. Male, age 20 years, single.

C. C.—Asthenia; anorexia; irritability; does not sleep well nor feel refreshed after night's rest, tosses about; has strong impulse to accomplish great deeds, especially in the way of literature; feels superior, has inner consciousness of spiritual superiority; feels he is inspired by the Muses; grandiose; carries large package of mms. of disjointed sentences which he declares to be examples of his inspirations. They have no rhyme or reason in them. They are entirely fragmentary.

Past History.—First two years of life very sickly.

Family History.—Father died of paralysis; mother living and well; one sister insane at 14 years, again at 28; rest of family well.

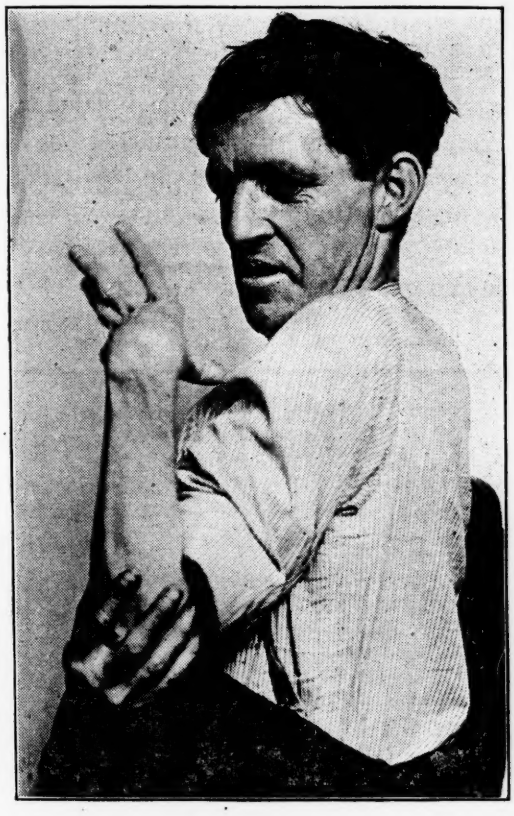
Examination.—Patient carries himself with a superior air; wise confident expression; happy, self satisfied, exalted mood; decidedly talkative concerning self and prowess; all reflexes increased, otherwise negative.

Diagnosis.—Dementia-praecox in paranoid state. Committed to Ann Arbor for treatment.

CASE No. 4091. Male, age 30 years, American, Newsdealer, single.

C. C.—Pain in left side, radiating from region of ileac crest to shoulder, existing about three weeks; forced movements of athetoid character of left hand and arm and grimacing of face, spasticity of left arm and leg.

Past History.—At seven months of age had pneumonia during which temperature ran high, patient became comatose and left hemiplegia occurred; no other illnesses of consequence; feet were crossed so that he had a scis-



sors gait which was corrected by use of brace, no longer necessary.

Family History.—Negative.

Examination.—Fairly well nourished young man with constant motion of left hand, arm and shoulder and forced turning of head to left side and grimacing; (see illustration) station good; gait spastic, especially left leg; forward attitude; internal strabismus of left eye; pupils regular, equal, react to light and accommodation, conjunctiva congested, occular fundi normal; nasal mucous membrane chronically inflamed, septum deviated to right, middle turbinates enlarged; left arm and leg smaller than right because of arrested development; biceps and triceps jerks increased on left side, normal on right, pain to pressure over left side, especially from ileac crest to costal cartilages; mentality somewhat undeveloped; laboratory findings negative; lungs, liver, stomach negative.

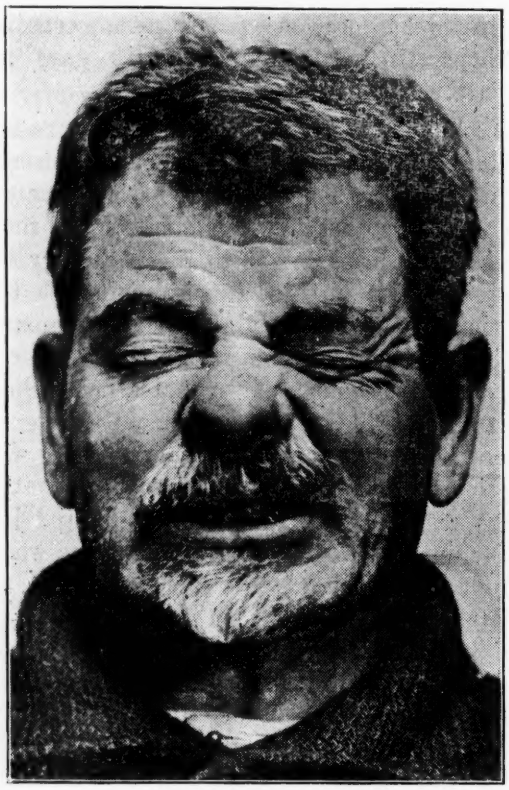
No definite cause could be assigned for the pain and it was believed to be functional, did not respond to ordinary sedatives, as acetanilid or phenacetin but the static spark gave immediate relief.

Diagnosis—Athetosis, hemiplegia, arrested development. In view of the extremely meagre history and the fact that the patient has not yet reached autopsy, it is impossible to make an absolute statement as to the pathology but I think we are justified in visualizing, that at the time of the pneumonia and its accompanying high temperature and the subsequent comatose state, mentioned above, that a hemorrhage occurred, probably of the lenticulo striate artery with a resulting clot, interfering with function and producing secondary degeneration in the region of the internal capsule and lenticular nucleus, for such a capsular lesion would account for the paralytic symptoms, while the involvement of the pallidal system in the immediate neighborhood would account for the athetosis. For we know that the large motor cells of the pallidal system, including those of the caudate nucleus, preside over the lower forms of motion, especially systematized automatic movements. A recent article by Hunt throws considerable light on this subject.[1] I present now two cases of right sided facial paralysis, one central and the other peripheral in type. Neither of these cases is of great interest individually but shown side by side, as I do here, they illustrate well the difference between a lesion of the upper motor neuron of the facial nerve and a lesion of the lower motor neuron of the same.

CASE No. 5230. Male, age 52 years, tailor, Russian. Whose photograph is here presented is of the central or upper motor neuron type. The lesion responsible for the facial condition is situated in the knee of the internal capsule or in the facial fibres between the knee and the nucleus of the seventh nerve, which is situated in the formatio reticularis of the pons. The paralysis is spastic in type and involves, chiefly, the lower part of the face. The patient is able to wrinkle both sides of the forehead and close both eyes but is unable to use the muscles of the mouth symmetrically. This facial condition is

1. Brain, Vol. XL, No. 1, 1917.

part of a right hemiplegia, due to involvement of the anterior two-thirds of the posterior limb of the internal capsule, which occurred suddenly June 15th, while in his home. He was not unconscious but could not speak and lost control of both bladder and rectum, unable to



eat because of inability to retain food in mouth or to swallow. Actual attack was preceded several days by strange feeling in the head, not precipitated by any excitement. Was unable to walk for three months after attack.

Past History.—Had rheumatism at intervals for twenty-six years, denies all other illness.

Family History.—Negative.

CASE No. 5190. Whose photograph is here presented, is of the peripheral type. In this case the lesion can be only in the lower motor neuron, either in its nucleus in the pons or in the fibres peripheral thereto, and is a flaccid paralysis.

Female, age 32 years, Russian, married ten years, four children, no miscarriages.

C. C.—Paralysis of right side of face which appeared nine weeks ago, retired all right and awoke with paralysis present, followed in three weeks by influenza, in bed three weeks.

Past History.—Diseases of childhood; typhoid at 12; has had severe headaches and impaired hearing since typhoid; constipation.

Examination.—Right side of face paralyzed; unable to wrinkle brow on that side; face drawn to left, smooth on right; mouth drops to left, unable to use mouth muscles on right side; cannot close right eye-lid, eye rolls up when closure is attempted; tongue protrudes straight; pyorrhea; inflamed, cryptic tonsils; reflexes and station good. Following is the report of Dr. A. O. Brown; "Nasal passages clear, no sinus infection, tonsils small, partially covered by the pillors, numerous crypts in tonsils which were filled with pus and debris, crypts cleaned out with small applicator." Tonsils later removed. Pathological report from Dr. James E. Davis states that the tonsils were filled with pus pockets and evidence of chronic inflammation and very spectacular in appearance. I believe that the paralysis in this case can be attributed to the infection from the tonsils. The condition is rapidly clearing up since removal.

Photograph shows author's method of correcting tension on flaccid paralyzed muscles by

contraction of muscles of sound side. This dressing consists of a small rubber band anchored at the corner of the mouth and in front of the ear by adhesive strips and its use hastens restoration of muscle tone and lessens tendency to atrophy from constant strain.

POST-INFLUENZAL PSYCHOSIS.

DR. W. M. DONALD, M.D.
Attending Physician to St. Mary's Hospital.

On December 19th I was called hurriedly in the morning about eight o'clock to see a man who was a total stranger to me, and who was said to have some sort of fit. On arriving at the house very shortly afterwards I discovered a man of about 35, lying in bed, and having a slight attack of epileptiform convulsions. The lips and eyelids were twitching slightly, the tongue was being constantly used to moisten the lips and the patient was apparently unconscious. His pulse and temperature were normal, his blood pressure was 110 systolic and 85 diastolic. He was given 10 grains of bromide every 3 hours and arrangements were made to see him in the evening. On my second visit at this time I found that he had had several more attacks of the same kind, and after each one, fell into a deep sleep, from which he could with difficulty be aroused. I secured a sample of urine for examination and found it normal, both by chemical and microscopic tests. There was still no rise in temperature, no rigidity of the neck and no deviation in the size or character of the pupils.

I obtained the following short history: The man was named Joseph S., aged 35, white, single, and machinist by occupation. He was boarding in the house where he was taken sick, and with him were some friends who had known him for years. They said that his previous health had been good, but that a week before I saw him he had had an attack, which the attending physician characterized as a slight touch of pneumonia. Since, however, the physician saw him but once, since he had no rusty sputum, and since he was sick for only about four days, the assumption was that the disease from which he suffered was not pneumonia, but an attack of the very prevalent influenza. He had been up and around the house about three days after this and seemed to be comparatively well, though weak. His bowels and appetite and digestion were normal.

On the morning of the attack he had risen from bed to summon his associates for work and suddenly fell over on the bed with the so-called fit. For the next two days he had repeated attacks of the same eplitiform type, followed in every case by long sleeping periods. His physical condition remained otherwise the same. He ate fairly well, and occasionally talked a little to his associates, though somewhat incoherently and uninterestedly.

On the morning of the fourth day I was again summoned hurriedly with the statement that the man had suddenly gone blind. On my arrival I discovered the patient in a state of considerable excitement, bemoaning his loss of sight and asking wildly what was the matter. His actions and conversation were quite incoherent and incoordinate. He did not recognize any of his friends, nor did he recognize me. He could be stilled for a moment, but immediately reverted to the original proposition of "What is the matter, and why can't I see?" After calming him with a sedative, and allowing a few hours to elapse, he admitted that he could see vaguely the light of the window or of a lamp or of some bright object at some distance from him.

As possibilities were considered some form of Nephritis with an albuminiric retinitis, a Diabetic blindness, some form of Meningitis, possibly T. B., Cerebro Spinal Syphilis, Cerebral Gumma and true Epilepsy. The negative urinary findings and the low blood pressure practically ruled out both nephritis and diabetes. The lack of pressure symptoms and a normal temperature gave a negative diagnosis to the suggestions of meningitis. True epilepsy was considered as a remote possibility inasmuch as the man was 35 years of age and never had had a previous attack. This left us then with the two possible factors of cerebral gumma, and cerebrospinal syphilis. He was sent at this time, December 24, to St. Mary's Hospital for intensive study. There his blood was found normal, both as to cell count and as to Wassermann reaction. The urinary and blood pressure findings already made were confirmed. All reflexes were found to be normal. Heart, lungs and abdominal organs were all normal. Spinal fluid was withdrawn under normal pressure, and found negative as to Wassermann, and normal as to cell count, globulin and sugar contents. The sputum was likewise examined for possible obscure tuberculosis, and nothing found but some staph and strep. Dr. Eugene Smith was asked to examine the eye grounds and reported slight iris adhesions and some considerable congestion of the retinal vessels, possibly due to his convulsions, but said that otherwise the retina was normal and that his vision up to that point was probably perfect. A little later, from his brother, who came here from Pennsylvania, and from one of his friends, the following history was obtained:

His father was dead at the age of 60, cause unknown; mother dead at the age of 55, of

pneumonia; six brothers living and well, two sisters living and well. His past history showed no sickness in early childhood except measles and mumps, and a fractured tibia in a railroad accident in 1905. From all of these he convalesced without any trouble. There is absolutely no history of tuberculosis, rheumatism, tonsilitis, nephritis, insanity or epilepsy, either in his own case or in that of any members of his family.

Both the grandparents and parents of the patient were honest hardworking people, had never showed at any time any nervous symptoms, nor were they subject to fits of anger, hysteria or melancholy. The patient has always been temperate, a steady worker and well liked by his employers and friends. He has had no cause for worry over financial matters, or domestic affairs. He was comfortably located in a boarding house, and according to his friends had no love affairs to worry him. He has never been in any kind of trouble, nor has he ever shown any evidences of worry or anxiety. After being in the hospital for twenty-four hours he became so violent that restraint was necessary and was continued at intervals for several days. His memory seemed to be gone. He did not know where he lived nor what he had been doing. He had no knowledge of his attacks of convulsions nor of the onset of his blindness. He could not remember the names of any of his friends, except one. He knew his own name and own age.

The negative findings in the spinal fluid and continued negative findings throughout his physical examination forced us away from the possible diagnosis of syphilis of the cord or of the brain. We were thus step by step forced back to the conclusion that the patient was suffering from a psychosis. Dr. Smith insisted on his second examination that the patient could see and that the case was of an hysterical nature, and the other physicians were obliged through the ocular findings and through the physical examination, all of which were negative, to conclude that such a diagnosis must be a correct one. The lesion in our judgment was very similar to that following shell shock, and the treatment was identical with that used for such trouble. Suggestive therapeutics or psychotherapy was used at once and continued until he left for his home in Pennsylvania about three weeks after he entered the hospital. He was then practically well but weak. He could see any ordinary object and had largely recovered his memory.

A great deal of patience was used both by the writer, by the interne in charge of the case, and by his brother, who was the nurse, in carrying out the plans for suggestive therapeutics. Thus for instance, he was assured that he could see certain things, then a white enamel table was pointed out to him. First he noted it was white, then after patient questioning that it was square, and thirdly that it had legs. Being then asked what it was, he replied with some hesitation "a table." Optimism was the keynote of treatment, and patience and persistence the cornerstones of the fabric of cure.

The diagnosis was made of a post influenzal psychosis of an hysterical nature. The prognosis was somewhat guarded because it was feaed that he might develop a psychasthenia or neurasthenia of a permanent character.

Outside of the psychotherapy no treatment was given except an occasional dose of bromide for sedation and for sleep. Gentian was given for a tonic, and rest in bed was mandatory for the first week and permitted and recommended when weary during the rest of the cure.

As remarked before, when he left here he was comparatively well and reports a steady improvement since that time. The case is presented on account of the obscurity of the early diagnosis and to show the value of suggestive therapeutics in such cases.

Pluriglandular Mixtures.—The Council on Pharmacy and Chemistry reports that the following preparations put out by Henry R. Harrower have been found ineligible for New and Nonofficial Remedies: Caps. Adreno-Spermin Comp.; Caps. Antero-Pituitary Comp.; Caps. Placanto-Mammary Comp.; Caps. Thyro-Ovarian Comp.; Caps. Hepato-Splenic Comp.; Caps. Pancreas Comp., and Caps. Thyroid Comp. Each of the mixtures contained one ingredient or more which is neither recognized in the U. S. Pharmacopoeia nor admitted to New and Nonofficial Remedies. For obvious reasons the Council does not accept a mixture containing an indefinite ingredient; hence, it would be necessary as a preliminary for the consideration of any one of the mixtures that their unofficial ingredients be made eligible for New and Nonofficial Remedies, by the submission of evidence that such ingredient is of uniform composition and that it is therapeutically valuable when given by mouth. The mixtures were also ineligible because in the light of our knowledge the administration of gland mixtures in the host of conditions enumerated in the advertising circular of Harrower is irrational and on a par with the use of shotgun mixtures once in vogue. (*Jour. A.M.A.*, Jan. 18, 1919, p. 213).

The Journal
OF THE
Michigan State Medical Society
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A. L. Seeley, Chairman .....Mayville
E. W. Toles .....Lansing
R. S. Buckland .....Baraga

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On Leave of Absence on Duty
Medical Reserve Corps, U. S. A.
D. EMMETT WELSH, M.D.,
Secretary Editor, pro tem.

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March

Editorials

MEMBERS ATTENTION.

The Editor requests all members who are or have been in the service to send him their photograph (in uniform if possible) as soon as they can conveniently do so, but all photographs must be in by April 1st, for publication in our May issue.

ANNUAL MEETING.

Place—Detroit.

Time—May 21-22.

Host—Wayne County Medical Society.

Program—One of the very best.

Features—Victory meeting.

Attendance—The best.

The following have been appointed on the Committee of Arrangements:

Doctor F. B. Tibbals, Chairman, Kresge Medical Bldg. Doctor John N. Bell, David Whitney Bldg. Doctor L. J. Hirschman, Kresge Medical Bldg. Doctor E. W. Haass, Fine Arts Bldg. Doctor Harold Wilson, David Whitney Bldg.

The following members were appointed Chairmen of the various Sub-Committees:

Dr. Louis J. Hirschman, Committee on Hotels, Halls and Meeting Places and Registration.

Dr. Harold Wilson, Committee on Entertainment.

Dr. E. W. Haass, Committee on Finance.

Dr. Guy L. Connor, Committee on Automobiles.

Dr. E. H. Sichler, Committee on Printing, Badges, Posters.

Dr. John N. Bell is Secretary of Committee on Arrangements.

The Chairman has appointed Dr. R. L. Clark, Chairman of the Committee of Exhibits.

DUES.

To keep up the standard of this *Journal* requires money and the cost of this publication is expensive. Your Secretary, Doctor F. C. Warnshuis, was fortunate enough to buy up a sufficient amount of good paper to last us for almost a year.

The Secretaries should not wait until their full quota has paid, but the dues should be remitted to this office as soon as received. The rules of the Society are that those who have not paid their dues by April 1st are suspended for non payment of dues. The revenue derived from the dues is practically the only revenue for the *Journal* expense and an early calculation is made accordingly, and unless the dues are paid and paid promptly the size of the *Journal* will have to be materially decreased. Therefore, pay your dues and keep up our standard, and thereby derive the benefits of the defense fund. Failing to pay your dues deprives you of the benefit from the medical defense fund.

The secretaries of the county societies are urged to send to this office the reports of their meetings so that the same may be published

correctly in the *Journal*. Many of the secretaries fail to send us the minutes of their meetings, and then we publish the same according to clippings received which in many instances contain errors. When an error of this character creeps in, the *Journal* is taken to task about the same. This is wrong and the error is due to the County Secretary instead of the *Journal*. Always report the minutes of your meetings as soon as held to this office and no errors will occur.

The secretaries should inform the *Journal* of anything that has been done of a special nature. If papers have been read, send us the papers for publication; if the entire article cannot be obtained send us a synopsis of the of the same as only by this interchange of ideas can we succeed.

Our Annual State Society Meeting will be known as a Victory Meeting, and it is evident that the addresses and the major portion of the papers will pertain to war work in some form or other. Our exchanges also show that other states have this same form of meeting in mind. By the announcement of the A.M.A. the Atlantic City meeting will be a Victory Meeting.

We do need the co-operation of the component Societies to make this meeting one of the best that has ever been held, and to contribute to the Society such requests as already have been made. The *Journal* wishes to publish the pictures of all of their members who have done cantonment or overseas work.

The County Societies must send in the photographs of their members so that they will gain their proper recognition and if it is not done, the *Journal* cannot be responsible for the failure of their non-appearance.

All this data must be in the hands of the *Journal* not later than April 1st as we go to press on that date. Our *Journal* will be a large one and it will take a considerable length of time to make all corrections which are necessary prior to publication.

MEDICAL LEGISLATION.

The Journal has been credibly informed that the bill "To promote the protection of the public health, to provide for the appointment of county health officers in and for the various counties of the State, and to prescribe the compensation, powers and duties thereof," and the appropriation for the Venereal Disease question and its eradication will pass.

Some objection has been raised relative to the full time health officer. When medical legislation is attempted and bills are presented which in the main show a betterment for the profession it is evident that some minor points are made exceptions. We should grant to the framers of these bills honor and good intent for their presentation. The medical legislation has been very lax due to the fact that the members of the profession are either not united as they should be for their own preservation and betterment or they show a too lax interest in measures of this character. We will admit that some changes might be made, but these are good bills and should pass, but if the profession is going to knock on minor conditions of the bills and present this or the other objection to their representative, no bill no matter of what character is going to be able to be passed on account of these objections as the representative does not know what is best to be done and it is on this account that many good bills have been presented and have been pigeon holed. These small variations should be lain aside when the object of the measure is for the good of the majority, and we should not thwart its usefulness by individual selfishness.

We hope that the profession as a unit will give its full support to the passage of the bills that relate to medicine which are before this legislative board.

"OVER HERE."

Increasing experience and continued association in a professional relationship with our more severely wounded soldiers who are yet unfit to undertake the journey homeward continues to increase our knowledge of the surgical problems that are involved in the care that is required for their restoration to health and physical activity. It would be fatuous indeed to attempt to set forth any dogmatic principles of treatment or express fixed opinions upon this or that method or form of surgical treatment. Neither do I believe that there exists among the medical officers now in France a unanimity of opinions regarding any single method. Every procedure that is being employed has its adherents as well as its opposers. No happy medium or routine form of treatment seemingly exists and one pursues the methods that personal experience dictates as

the means best suited to surmount the difficulties that confront the surgeon.

Personally I've seen over 5,000 cases of wounded soldiers and in addition to a physical examination I've had the opportunity of reviewing their clinical records of various services in which they had undergone treatment before reaching this base. I have been afforded the opportunity of noting the results secured from varied methods that were employed. While most all these methods represent much that is commendable yet they likewise give physical evidence of details and principles that are pernicious. The end results can as yet not be tabulated and final conclusions must be postponed until some future date.

It is here that I may make note that the results of imparted conclusions of writers who discuss any series of cases must be discounted unless they are based on statistics wherein each group of such series and each case has been followed until the soldier returned to full duty or was actually discharged from the service. There has been and will be, possibly by reason of pardonable enthusiasm, a tendency to publish personal experiences and conclusions on certain surgical conditions that came under an author's personal care. The series may deal with hundreds or even thousands of cases and so present an impressive array of cases. Unless that author has followed these cases beyond his own hospital base, from which they are frequently evacuated before the ultimate result is established, his conclusions may tend to lead one astray from dependable surgical axioms.

I am continually encountering cases which are far from convalescent and which might easily be considered as having undergone an "uneventful recovery" but which are in reality far from the recovered state and still require radical surgical work that bears no relationship to reconstructive surgery. I therefor believe firmly that we would all do well to simply set forth our results as far as we have been connected with any given condition and there cause our conclusions to be but tentative with the implied reservation that definite pronouncements must await more matured observations and summarization.

A personal experience with a goodly number of empyemas in which Dakin's solution had been used by others who preceded us while I was at Camp Sherman and in collaboration with Major W. T. Dodge and a like and continuing experience since my arrival in France strongly causes me to be inclined to speak in severest and most emphatic terms of condemnation of Dakin's Solution for pleural irrigation. I have yet to see a case that did not evidence the prolongation of that condition. I must yet be convinced that it is the solution par excellence and while holding myself open to conviction, I am becoming more and more impressed with the fact that it is a pernicious practice to employ that solution in empyema. He who inspires its employment and thoracotomy in preference to costatectomy *without* irrigation is subscribing to an unsurgical procedure that merits naught but condemnation. I have yet to see wherein it has any claim for preference.

While speaking of Dakin's solution and also while fully realizing that many able men are on record as testifying to its efficacy I am personally becoming more and more opposed to its use as I am forced to deal with conditions in which it has been employed. I realize that often it has been employed incorrectly and not in accordance with the technic established still my observations are based on surgical results wherein its proper method of use had been observed. I confess to a regret to have to assume such an attitude and am still holding myself ready to subscribe to the use of Dakin's solution but thus far I've not encountered results that would cause me to employ it in any surgical condition.

Probably the most universal treatment, that was in vogue at the time that actual fighting ceased, for the treatment of battle wounds was that form commonly termed as "debridement."

As many know it calls for a wide and free dissection of all lacerated and infected tissues and the conservation only of vital anatomical structures. The resulting wound is not sutured but is drained, packed and left wide open. That method has without doubt prevented the loss of like from infection. It likewise accounts for the long period of hospitalization required by a wounded soldier and also will be the cause for continued hospital residence for reconstructive surgical procedures after the soldier is returned to the United States. The time element, while an important factor, becomes a matter of but minor consideration when we reflect that life has been saved and functional use will be largely regained when the benefits of constructive surgery are subsequently obtained. It also accounts for the wounded's delayed return home and is likewise the reason why so many of the profession are on duty in the Base Hospital centers in France. Debridement is a

recognized surgical practice and will be of continued value in industrial surgery.

As stated in the opening paragraph my relationship with increasingly large number of cases is leading me into large fields of surgical conditions that present fertile pastures for detailed observation. As passing days bring the final results and an opportunity is thus afforded for matured reflection and ultimate conclusions I am desisting from making any definite statements. I am hoping that the opportunity may be mine to discuss in detail the principles of war surgery and am collecting case records for that purpose. This communication is but intended to arouse an analytical attitude towards all such problems.

Sincerely,

FREDERICK C. WARNSHUIS,
Major, M. C.

THE FAILURE OF GERMAN COMPULSORY HEALTH INSURANCE.

Prior to the entering of the United States into the world war, social insurance was under general discussion in medical, public health, social reform and philanthropic circles. Eight states appointed commissions to investigate the subject and submit reports and recommendations. With the return of peace it is highly probable that this discussion will be resumed. While the American Medical Association has taken no definite stand on the fundamental questions involved, it has, by the adoption of the resolutions presented to the House of Delegates in New York in 1917, indicated a minimum basis on which the medical profession will co-operate in case the plan is adopted by any state. To the majority of physicians the question is an open one on which they are keenly desirous of securing all the information possible. Much has been written in favor of social insurance from an economic and public health standpoint; many claims have been made regarding results in other countries; but little has been written in the form of definite criticism of the proposed plan and its results elsewhere. For this reason, the paper presented before the twelfth annual meeting of the Association of Life Insurance Presidents by Mr. Frederick L. Hoffman will doubtless arouse considerable discussion.

The primary purpose of the establishment of compulsory social insurance in Germany, according to Mr. Hoffman, was to hinder the rise, curtail the power, and ultimately destroy the socialistic movement in Germany. "By means of a cleverly devised terminology and downright methods of deliberate deception, the German working people were deluded into the belief" that compulsory health insurance was primarily intended for their benefit. In this way the German government hoped to bring about the complete subjection of German wage earners to the will of the bureaucratic and political machine. "All compulsory social insurance," says Mr. Hoffman, "rests on profound misconceptions of life and labor in a democracy, for it involves the establishment of permanent class distinctions." After thirty years' trial in Germany, compulsory health insurance, he asserts, has not improved the health of the working portion of the community or the standard of public health, while financially it is at present in a condition of chaos. It has increased malingering among employees to such an extent that only 26.6 per cent. of the alleged illness in Leipzig was found to be real. As to the claim of improvement in the health of employees, in 1884-1885, in Dresden when the fund was established, the percentage of employees claiming sick benefit was 30.4, while in 1913, after twenty-nine years of operation, the percentage was 32.2; in other words, the amount of illness among the insured after thirty years of insurance was greater than it was in the beginning. There were 27.7 per cent. of deaths from tuberculosis among male wage earners, as compared with 21 per cent. for the same class in the United States registration area. Regarding financial conditions, the report of the sick fund for Konigsberg for 1917 shows that expenditures have increased 75 per cent. as compared with 1915, and that the assessment on wages has been raised from 4.5 per cent. to 6 per cent. to meet this increased expense. Dishonesty and deception on the part of patients, druggists and physicians with a general undermining of the morale of the community, are also charged. Some of Mr. Hoffman's conclusions bear on the social results of compulsory insurance. It has not checked the spread of socialism in Germany, he asserts, but has increased the demand of workmen for additional benefits; it has not improved the economic condition of the German wage earner, since the benefits that it provides were never adequate to meet more than the requirements of the minimum standard of living. It has not reduced disease nor improved public health conditions. In the field of sanitary reform the United States, in the last thirty years, he declares, has advanced far more rapidly without social insurance than Germany has with it. The death rate in Germany has not diminished proportionately as it has in this country. The condition of the medical profession in Germany has not been improved, but, on the contrary, the ethical standards of the profession have been perceptibly lowered. The sickness rate among German wage earners has not been reduced; increased demands on the funds both now and in the future will require either increased contributions from wage earners, withdrawals from the financial reserves, or both. The system has resulted in a lowering of social and individual morality and has fostered deception, dissatisfaction and dissimulation. The German experience in Mr. Hoffman's opinion, proves the inadequacy of social insurance as an effective means of securing the required degree of continuous social progress demanded by modern standards of labor and life.

Mr. Hoffman's conclusions will doubtless be challenged by the advocates of social insurance. The charges he makes against German-administered social insurance are serious. If sustained by the evidence, they are entitled to serious consideration. In determining his attitude on the question, every physician must avail himself of all the information he can secure on both sides of the question and weigh the evidence for and against. Mr. Hoffman's

paper is a specific attack on the proposed social insurance plan, and as such should be considered by the student of the subject—*Jour. A.M.A.*, Feb. 1, 1919.

MICHIGAN WILL PROHIBIT THE DENTAL PARLOR METHOD OF PRACTICING DENTISTRY.

C. N. Johnson, M.A.D.D.S.,
Editor of the Dental Review,
913 Marshall Field Bldg., Chicago, Ill.

The quack dentist is just as bad as the quack physician. Both are capable of doing great damage as has been abundantly demonstrated in the past. In most states legislation has been enacted to protect the people against the quack physician and a similar disposition is developing against the quack dentist. No intelligent legislator would for a moment think of patronizing a quack or sending his family to such a man. He is too well informed, and has too much at heart his family's interests to take such a chance as that. Why then should he be willing that his constituents, many of whom are not so well able to judge of such matters as he is, be subjected to this kind of imposition when he has it within his power to protect them?

Reputable men either in medicine or dentistry do not hide behind high-sounding and misleading names. These fictitious titles are merely bait to catch the unwary, and they have already caught enough to drag the name of dentistry into the dirt.

If all the endless aches and pains caused by these quack concerns were possible of concentration they would send a howl to heaven that would ring in the ears of legislators till they passed the needed measure to abolish such imposition. It is the tendency of the age to expose fraud and wrong doing. Investigations are in progress all the while against commercial combinations and monopolies. How much more important it is to expose the wrong which injures the individual instead of his pocketbook. This is a matter not only of money, but of the welfare and even the lives of the people who are represented by the legislators of the sovereign state, and no legislator will hesitate for one moment to protect his constituents if he only knows clearly and fully what is for their greatest good. Suppressing quackery is one of the most tangible benefits that any legislator can pass on to his people.

An amendment to the dental statute of the State of Michigan has been introduced into the Legislature, which aims to prohibit the practice of dentistry under a trade name, and the best interests of the people of Michigan requires that it should be passed.

New York State already has this law, and the Attorney General and the Assistant Commissioner of Education, Mr. Augustus Downing can attest to its value as a public health measure. The New York Law reads as follows:

The New York Law.

"A person shall be deemed guilty of a misdemeanor and upon every conviction thereof shall be punished by a fine of not less than two hundred and fifty dollars, or by imprisonment for not less than six months or by both fine and imprisonment, who

"Shall practice dentistry under a false or assumed name or under the license or registration of another person of the same same, or under the name of a corporation, company, association, parlor or trade name, etc., etc." The exception being legally incorporated concerns in existence at the time of the passage of the act, who were permitted to continue, on condition that they employ only licensed dentists to operate, and that their advertising matter should conform with rules made by the Board of Regents. A further condition being that if any such corporation should cease to do business for any reason, it would not be permitted to resume.

It may seem anomalous that it should be considered against the public weal to practice dentistry under a trade name, and that nevertheless the very statute which erected this dogma should yet make exceptions permitting stated concerns to do the very thing declared thereafter to be illegal. But unfortunately, while the framers of the law did desire a wholesale house clearing, yet the State had already, through ignorance of the mischief which would ensue, granted corporation charters to certain concerns and the annulment of these charters was not possible in a single act regulating the future practice of dentistry. It is to be observed however that by creating regulatory powers over these dental corporations the Regents acquired opportunity greatly to mitigate the evil practices commonly attributed to such places.

Passing from the New York Law, which within a very few years has compelled some three hundred illegal practitioners to discontinue, and which has forced a large number of dental parlors out of business, let us discuss the need of such an act as Michigan is now contemplating.

Evils of Dental Parlor Methods.

The Dental Parlor men will probably ask, at any public hearing of this question which may be held: "Why do you object to our doing business under a trade name?" This question should be squarely met and answered, but before essaying such reply those men should in turn be asked: "Why do you wish to do business under a trade name?" The replies, if any be made, will not aim to disclose the truth but rather conceal it. The writer indeed would be most interested to hear the answers. He recalls being present at a meeting of advertising dentists when the New York bill was pending, and he asked this same question: "Why do you wish to do business under a trade name? Why not use your own name?" The man addressed hesitated a moment and then said: "Well you see, I am not a dentist!" and then hastily added "But I employ only licensed men, and they must be crackerjacks to work for me."

This brings out at once one of the prominent evils of such a system. A man, not a dentist at all, and consequently not even competent to judge the skill of the men whom he hires, may yet conduct a Dental Parlor and attract deluded patients by alluring, misleading and often impossible promises in his advertising matter.

Indeed the very trade name itself is almost invariably, in a very definite sense a deception. "The Boston Dental Parlors" probably has no Bostonian connected with it. The same is true of "The New York Dental Parlors," "The Chicago Dental Parlors" and places with like names. Since the war began, and the Red Cross has become a name to conjure with, we find "Red Cross Dental Parlors" springing up. These probably would be "closed up" were not the Red Cross officials too busy just now to attend to such affairs. Then of course we have "Painless Dental Parlors" all over our land, in every one of which painful operations are performed.

But "pain" is the great bugaboo of patients, and the word "painless" is the most psychologically attractive name that can be used. Alliteration likewise being useful we find the celebrated Dr. Parker of Brooklyn Borough, New York calling himself "Painless Parker." To give himself the right to use this name he even went so far as to have his name legally changed to "Painless Parker" by some western state. But New York declines to recognize the alteration of this name and holds that no Dr. Painless Parker has a right to a license in this state. Moreover under the law above cited it has prohibited the conducting of any Painless Parker Dental Parlors. As the law has already been tested in the Courts, Dr. Parker has yielded and has even agreed to have the state which altered his name, change it back to his original name, Randolph Parker, and any dental practice done by him in the future in New York State will be done in the name of Dr. Randolph Parker.

In a recent issue of Printer's Ink Dr. Parker defends his advertising methods, and it is not germane to our present subject to answer his arguments. But he says that dentistry is a business like any other business, and that men practice dentistry to make money. Unfortunately others have said the same thing. We have heard many a dentist state "I am not in business for my health." It is against men who hold such views that the Community must be safeguarded by such statutes as New York has, and Michigan soon will have. Men in dentistry should be in dentistry not for their own health perhaps, but assuredly for the health of their clients. Men who think of the emoluments first and make the best interest of the patient secondary, or even more distant, should not be in practice at all.

While it may be true, as Dr. Parker says that many, altogether too many men practice dentistry because they look upon it as a ready means of earning money, nevertheless it is also true that there are literally thousands of dentists who have no thought at all of "How much can I make out of this patient?" but who invariably approach a case with the mental thought "How much can I do to benefit this patient." Undoubtedly these men render bills for their services, but they earn their fees not as these Dental Parlor men would have legislators believe, as men in business do, by selling wares, but rather as the minister does who dispenses ministrations. And it is exactly this class of dentists who have made dentistry the profession that it is; who have done the research work, founded the schools and taught in them, thus making it possible for Dr. Parker and others who look upon dentistry as a business, to "do business" at all.

Purpose of Trade Names.

The true and chief reason why any men desire to practice under trade names is because they do not wish to practice dentistry as a profession, but as a business. They wish to use a Trade name so that none of their employes may become sufficiently known to their clients or identified with the business to be able to "open up in the same block and steal 'trade.'"

Perhaps one of the chief reasons why trade names should be prohibited may be made clear by contrasting two pictures.

The "Get Rich Quick Dental Parlors" hires ten young licensed dentists to work for them. These men are invariably watched. It is especially noted whether or not a particular operator seems to be attracting friendships among the office patients. If so, such patients are constantly transferred to other operators. Thus the individual patient is not treated by an individual dentist, but his teeth are cared for by the "Get Rich Quick Dental Parlors." Is it to be believed that such an institution can really engage the services of competent men? Would really capable men endure such an environment? If a skilful young man, because of supposed necessity accepts temporary employment in such Dental Parlor, he makes this as temporary as possible. He saves as rapidly as he can and then goes into private practice. And one prominent purpose of the Trade Name is to handicap this really skilled man and make it impossible for him to win the esteem of patients. Hence such employe has nothing at all to work for but his salary, and it is a well known fact that such wage earners almost invariably do as little as possible for their wage.

Now let us examine the other picture. Take identically the same ten men, but set them up each in an office of his own. What will be his attitude towards any patients that may come in? For his own selfish sake, if you choose to put it so, he does the best that is within his powers for that patient. Why? Because he has no salary, and his income therefore must depend upon his power to render service. AND HE DOES NOT USE PRINTER'S INK, HIS ONLY MEANS OF ADVERTISING HIMSELF IS THROUGH THE APPROVAL OF SATISFIED PATIENTS.

Hence it is abundantly evident that the Community is best served by that class of dentists who serve themselves best by doing their best. Men who ask themselves "How much can I do for this patient" rather than "how much can I make out of this patient."

Many of the Trade Dental Parlor men will try to befog the issue by declaring that better dentistry is done by them than by hundreds of private dentists. But the fact is that thousands and thousands of private dentists render better service than is obtainable in any or all of the Dental Parlors in the United States. That some private dentists render poorer service than the Parlors is not to be condoned by permitting the Parlors to continue. The fact, if fact it is, merely brings to the State one more problem to solve

in the interest of Public Health, and the solution was probably hinted at editorially in these pages last month. Dentists should be compelled to register and take out a license annually. And perhaps if every five years, the dentist should be obliged to pass a new examination in order to receive a continuance of his license, it might become impossible for the Parlor men to say that any private dentist is rendering poor service.

In these days when the physicians are attributing so many diseases to the teeth, and particularly to the bad dentistry done with the sanction of a state license to practice, the duty of legislatures to pass drastic laws for conservature of Public Health is increasingly evident.

THE WORK OF THE DOCTORS.

The government recently issued a statement to show that of 71,114 wound and injury cases to soldiers, tabulated in the American expeditionary force hospitals, 85.3 per cent. recovered and returned to duty. The number of deaths was a little more than 8 per cent. Of nearly 170,000 cases of disease among soldiers, more than 93 per cent. recovered and returned to duty. All of which goes to show that the soldiers have had the best medical and surgical attention the country could give them. The final figures will show a much higher death rate among soldiers than would have been true had the army escaped the influenza, both in this country and abroad. In a general way the hospital staffs were able to combat this disease, but they were not large enough to treat such an extraordinary situation.

Some of the best surgeons and physicians in America went abroad to take care of the soldiers and many of them are still abroad. A letter received from a surgeon near the front told how he had operated standing up until he was too tired to remain in that position longer. Then, instead of seeking rest, he sat down and continued his work. He considered himself fortunate if he got two or three hours' sleep a night. This was while the fighting was on. There has been a lull now, and the medical men are catching up with their work and sleep.

One physician who was a Civil war veteran tried to enter the service but was barred because of his age. He admitted that he could not stand much hard work but he said that he might be able to save the lives of a few soldiers before he broke down. That was the spirit of the average physician and surgeon. Practically all of them made great financial and other sacrifices in order that they might do all within their power for the good of the men who fought.

THE PHYSICIAN AND THE INCOME TAX.

The present federal income tax law, however unpopular it may be, bids fair to improve the business methods of physicians, and to throw a light on the question of the doctor's income. It is too common for a physician to regard his cash receipts as his income. A physician when asked how he is getting along will say, "I took in $6,000 last year," or "I did $10,000 worth of business." Practices are advertised for sale on the same basis. Yet this is not the true income any more than are the gross receipts of a grocer or a dry-goods merchant. Any business man who regarded his total cash intake for the year as his income would be considered by his business associates as headed for the bankruptcy court or the lunatic asylum. The business man knows that out of his gross receipts must come his operating expenses, insurance, depreciation, replacement of stock, and interest on investment before he can even begin to estimate his profit for his year's work. Yet prior to the passage of the present law, the great majority of physicians would have been unable to estimate their income on any other basis. Few physicians, except city specialists with offices separate from their homes, have been in the habit of separating their business from their family and personal expenses. The income tax law has made it not only necessary, but also highly profitable for us to keep books more carefully than we have heretofore done, since exemption is allowed for all legitimate professional operating expenses. This calls for definite figures as to the amount spent for office rent, attendants and maintenance, drugs and surgical dressings, maintenance of automobile or other conveyance, medical periodicals, associations and meetings, etc. In a word, it requires us to estimate the cost of carrying on our business, and the difference between this and the gross receipts. Many physicians who have heretofore been entirely ignorant of what their business was costing them have been surprised to learn that their real professional income was one-third or one-fourth what they had supposed. The income tax, in its present form at least, is a war measure, and few, if any, will regret its disappearance or material modification; yet if during the time that it is in force we learn to keep systematic records of receipts and expenditures, it will have taught a most important lesson.—*Jour. A. M.A.*, Jan. 11, 1919.

Deaths

Dr. A. B. Lennington died at his home in Maybee, Mich., Feb. 6. Dr. Lennington was a graduate of the Detroit College of Medicine and had practiced in Maybee for about eighteen years. He is survived by a widow and five children.

The death of the following physicians not members of the State Society have been reported: Dr. William Rowe of Union City, Dr. Willia J. Marks of Jackson, and Dr. A. H. Olmstead of St. Louis, Mich.

Correspondence

December 20, 1918.

To the Physicians of the Country:

There is danger of an alarming spread of venereal disease during the reconstruction period. Prior to demobilization, the tense morale of the fighting forces is bound to relax. When mustered out, the men will return to conditions in civilian life which have been responsible for venereal disease. Prompt measures must be taken to meet the situation.

Among the striking things disclosed by Army statistics is the value of proper methods of control as developed in the treatment of venereal cases in the Service. The same methods of control will prove equally effective when applied to venereal cases among civilians.

The United States Public Health Service, therefore, appeals to every member of the medical profession to co-operate in accordance with the enclosed bulletin. You are asked to give assurance of your support by signing and returning the post card. Subsequently, each physician enlisted in this movement will receive a copy of the revised "Manual of Treatment of Venereal Disease," prepared by the United States Public Health Service in accordance with the latest methods of treating venereal disease in the Army, and distributed in co-operation with the State Board of Health.

If you have not replied you should do so at once.

Respectfully,

RUPERT BLUE, Surgeon General.

February 6th, 1919.

Dr. F. C. Warnshuis,
Grand Rapids, Mich.

Dear Doctor Warnshuis:

I am making a collection of urological specimens and am writing you along with a number of my friends asking for aid. If you have anything in the way of a specimen or specimens, either normal or abnormal, that you don't in particular need, Supra Renal Gland, Kidney, Bladder, Ureter, Prostate or Urethra, I would thank you for the same. I am looking for specimens from the lower animals as well as the human.

I shall gladly meet any expense incurred.

Thanking you for any assistance that you can or would care to give, I am,

Yours fraternally,

G. V. BROWN, M.D.

919 Smith Bldg., Detroit.

P. S.—If a pathological report is desired on any specimen we would be pleased to furnish you with such gratis.

Harrisburg, Pa., December 23, 1918.

Dr. F. C. Warnshuis,
Grand Rapids, Mich.

My dear Sir:

Will you kindly call attention in the next issue of your *Journal* to the fact that Dr. Francis D. Patterson, Chief, Division of Industrial Hygiene and Engineering, Department of Labor and Industry, Harrisburg, Pa., is desirous of obtaining a complete list of all physicians engaged in the practice of industrial medicine?

It has been the practice of this Department to hold semi-annual conferences of Industrial Physicians and Surgeons for several years. These Conferences are well attended, and a great deal of valuable matter is presented in the discussions. In order to reach all physicians interested it is desirable to have their names upon our mailing list. The next Conference will be held early in 1919, and it is, therefore, essential that the names and addresses of all Industrial Physicians and Surgeons be in my hands as soon as possible after January 1st.

Expressing to you my deep appreciation for your courtesy in calling this matter to the attention of your readers, I am

Very sincerely yours,

FRANCIS D. PATTERSON,
Chief, Division of Hygiene.

State News Notes

COLLECTIONS.

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

THE STUDENTS' LIBRARY ASSOCIATION of the Middlesex College of Medicine and Surgery solicits donations of Medical and Scientific libraries, Medical books, bound and unbound volumes of back numbers of Medical and Scientific Magazines, and funds for current American and foreign Medical Journals. Jennie Hraba, Class '21, Association Secretary University of Massachusetts School for Medicine, East Cambridge, Mass.

Dr. Henry P. Cook, a first lieutenant in the U. S. Army medical corps, who entered army service more than a year ago and who served with the British army in France and Belgium, has received his honorable discharge and has returned to Flint to resume the practice of medicine. Dr. Cook's services were loaned to the British army by the American army and he spent many months with the British soldiers in the field, seeing much of the fighting and having some remarkable war experiences.

Captain Henry Vaughan, former deputy health commissioner, now with the army sanitary corps, has been appointed health commissioner at Detroit succeeding Dr. James W. Inches, new police commissioner.

Dr. Leo C. Donnelly recently discharged from the orthopaedic section of the Medical Corps has moved his office from 727 Jefferson avenue, East, Detroit, Mich., to 607 Kresge Medical Bldg., Detroit, and will limit his practice to orthopaedic surgery.

Dr. R. F. Miller has been appointed city physician at Adrian, Mich. For the last four years, or since the adoption of the present charter, there has been no such officer at Adrian.

Lieut. R. L. Clark, 207 Forest avenue, W., Detroit, Mich., was honorably discharged from the medical department of Aeronautics at Selfridge Field, Mt. Clemens, Mich., December 21st, 1918.

Col. Burt R. Shurly of Detroit, Mich., head of Base Hospital No. 36, a purely Michigan organization, arrived from overseas Monday, Feb. 17th.

Dr. Reuben Peterson has received his discharge as major in the army and will resume his practice, at Ann Arbor, Michigan.

It has been announced that Dr. A. L. Swinton of Ontonagon will make his home in Marquette in the future and will be associated with Dr. S. M. Janes.

Dr. Albert S. Barr of Greenville has returned home from France after several month's service.

Word has been received that Dr. Mabel Elliott of Benton Harbor is on her way to Asia Minor.

On account of ill health, Dr. A. M. Francis is giving up his practice at Port Austin and is moving to Saginaw leaving Port Austin without a physician.

Dr. W. G. Bird of Flint, Mich., Counselor of the 6th District, left Monday, February 17th, for a months vacation in Florida.

Dr. Francis Rutherford of Grand Rapids is spending a few months in Altodena, California.

Lieut. R. J. Walker, formerly stationed at Hoboken, New Jersey, has resumed his practice at Saugatuck, Mich., having received his discharge a short time ago.

Dr. E. M. Ling, formerly of Merrill, is now located at Hemlock, Mich.

Dr. W. T. Morrison is now located at Albion, Mich. The doctor's former address was Pigeon, Mich.

Dr. F. C. Witter, Petoskey, Counselor of the 13th District is now located in the David Whitney Bldg., Detroit, Mich.

Dr. W. A. Royer, of Mendon, Mich., is now located at Battle Creek.

Major Dan H. Eaton has landed in America and is expected in Kalamazoo soon.

Dr. E. D. Osmun has returned from service in the army and has resumed his practice in Allegan.

Dr. G. T. Britton of Kalamazoo is ill in Borgess Hospital.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. County Secretaries are urged to send in these reports promptly

ALPENA COUNTY

The Alpena County Medical Society met Thursday evening, Jan. 30, 1919, at the New Alpena hotel. After dinner the following officers were elected for the following year:

President—Otto Bertram.
Vice President—Dr. George Lister.
Secretary-Treasurer—Dr. Leo Secrist.

Dr. Dunlap was appointed delegate for the state meeting and Dr. E. E. McKnight, counselor.

MUSKEGON COUNTY

At the annual meeting of the Muskegon County Medical Society the following officers were elected:

President—F. B. Marshall, Muskegon.
Vice-President—Dr. A. B. Poppen, Muskegon.
Secretary-Treasurer—Dr. J. T. Cramer, Muskegon.

NEWAYGO COUNTY

At the annual meeting of the Newaygo County Medical Society held at Fremont, Michigan, January 14, 1919 the following officers were elected for the ensuing year.

President—Dr. Arthur C. Thompsett, Hesperia.
Vice-Pres.—Dr. N. DeHaas, Fremont.
Secretary-Treas.—Dr. W. H. Barnum, Fremont.

Delegate to State Medical Society—Dr. Geerling, Fremont.

Alternate—Dr. Chas. B. Long.
Medico-Legal—Dr. N. DeHaas.

No further business appearing the meeting adjourned.

W. H. BARNUM, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

The regular meeting of the Kalamazoo Academy of Medicine occurred Jan. 28th, 1919.

There was a short discussion of the pending Medical Legislation and of the support that was being given it.

The scientific program consisted of papers entitled:

"Complete Muscle Operation in Primary and Secondary Perineorrhaphy." (Illustrated by case reports and lantern slides.) By Dr. C. E. Boys, Kalamazoo.

"Gastro Intestinal Motility." (Illustrated with

lantern slides). By Dr. J. G. Van Zwaluwenburg, Ann Arbor.

B. A. SHEPARD, Secretary.

The regular meeting of the Kalamazoo Academy of Medicine occurred Tuesday, February 11, 1919, with the President, F. C. Penoyer, in the chair.

Dr. G. F. Young, chairman of the Illegal Practice Committee discussed some of the phases of the questions which confront us regarding illegal practice at the present time. He showed how the present laws seemed to be inadequate to cover the situation.

Letter from the State Secretary was read, in which he asked for an appropriation to help bear the expense of the pictorial Victory number of the *State Journal*. The Academy voted $50 toward the expense of this issue of the *State Journal*.

The scientific program consisted of papers entitled:

1. Report of the Work Done for the Michigan State Board of Health on the Mental Condition of Cases Under Treatment for Venereal Disease. By Dr. Geo. F. Inch, Kalamazoo. (This paper with discussion sent in for publication.)
2. Venereal Treatment of State Cases at Fairmount Hospital. By Dr. Walter den Bleyker. (This paper with discussion sent in for publication.)
3. Observation on Work of the Medical Department of the Army in France. By Lieut. Col. James T. Case, Battle Creek.

OUR HONOR ROLL.

County Secretaries are requested to report the names of all members in the Service.

Allegan County.

Dr. Elmer D. Osmun, Allegan; Dr. Robert P. Stark, Allegan; Dr. Howard W. Stuch, Allegan; Dr. Orrin D. Hudnutt, Otsego; Dr. Willard R. Vaughan, Plainwell; Dr. Robert J. Walker, Saugatuck.

Alpena County.

Dr. Clarence M. Williams, Alpena.

Antrim County.

Dr. Bernard J. Beuker, Atwood; Dr. Edward W. Vis, Central Lake; Dr. Versile M. Gates, Eastport; Dr. Louis N. Yerkes, Elk Rapids; Dr. Worth W. Walton, Mancelona.

Baraga County.

Dr. Frank F. Marshall, Pequaming.

Barry County.

Dr. Maurice J. Cross, Delton; Dr. Birge C. Swift, Middleville.

Bay County.

Dr. F. S. Baird, Bay City; Dr. F. W. Brown, Bay City; Dr. S. L. Ballard, Auburn; Dr. C. V. Crane, Tawas City; Dr. V. H. Dumond, Bay City; Dr. E. Goodwin, Bay City; Dr. E. S. Huckin, Bay City; Dr. H. P. Lawrence, Pinconning; Dr. R. C. Perkins, Bay City; Dr. F. H. Randall, Bay City; Dr. R. E. Scrafford, Bay City; Dr. M. R. Slattery, Bay City; Dr. P. R. Urmston, Bay City.

Benzie County.

Dr. C. P. Doyle, Frankfort.

Berrien County.

Dr. Louis A. King, Baroda; Dr. Myron G. Becker, Jr., Benton Harbor; Dr. Carl A. Mitchell, Benton Harbor; Dr. Warren P. Morrill, Benton Harbor; Dr. Burton L. Stevenson, Benton Harbor; Dr. David Littlejohn, Bridgeman; Dr. Spencre Van Barnum, Coloma.

Branch County.

Dr. W. J. Bien, Union City; Dr. W. A. Griffith, Coldwater.

Calhoun County.

Dr. J. T. Case, Battle Creek; Dr. E. M. Chauncey, Albion; Dr. James Elliott, Battle Creek; Dr. R. V. Gallagher, Battle Creek; Dr. J. G. Gage, Battle Creek; Dr. W. Haughey, Battle Creek; Dr. G. C. Hafford, Albion; Dr. A. A. Hoyt, Battle Creek; Dr. J. J. Holes, Battle Creek; Dr. C. W. Heald, Battle Creek; Dr. T. Kolvoord, Battle Creek; Dr. A. C. McCurdy*, Battle Creek; Dr. W. N. Putman, Battle Creek; Dr. A. H. Ross, Battle Creek; Dr. A. J. Read, Battle Creek; Dr. R. D. Sleight, Battle Creek; Dr. R. C. Stone, Battle Creek; Dr. L. H. Tower, Battle Creek; Dr. E. Van Camp, Athens; Dr. C. G. Wencke, Battle Creek.

*Died in France, November 28th, 1918.

Cass County.

Dr. Edgar C. Dunning, Cassopolis; Dr. Chas. M. Harmon, Cassopolis; Dr. James H. Kelsey, Cassopolis; Dr. Walter S. Sharpe, Dowagiac; Dr. Ralph P. Jones, Marcellus.

Charlevoix County.

Dr. Allan M. Wilkinson, Charlevoix; Dr. Hugh W. Dicken, East Jordan.

Cheboygan County.

Dr. Arthur J. Sahs, Cheboygan; Dr. Lyle D. McMillan, Indian River; Dr. Allen C. Tiffany, Mackinaw; Dr. A. McKillop, Wolverine.

Chippewa-Luce-Mackinac County.

Dr. F. C. Bandy, Newberry; Dr. M. V. Gates, Eastport; Dr. R. D. Scott, Rudyard; Dr. T. R. Whitmarsh, Ypsilanti; Dr. R. C. Winslow, Sault Ste. Marie; Dr. I. V. Yale, Sault Ste. Marie.

Clare County.

Dr. Arthur R. Mussell, Clare; Dr. Burton J. Sanford, Clare.

Clinton County.

Dr. M. S. Gregory, Eureka; Dr. W. A. Scott, St. Johns; Dr. D. H. Silsby, St. Johns; Dr. W. M. Taylor, Ovid.

Delta County.

Dr. J. L. Conover, Rapid River; Dr. H. W. Long, Escanaba; Dr. J. J. Walch, Escanaba.

Dickinson County

Dr. Robert E. Hayes, Channing; Dr. Gustavus W. Moll, Foster City; Dr. Samuel E. Cruse, Iron Mountain.

Eaton County.

Dr. Stanley A. Stealy, Charlotte; Dr. Wells B. Fillinger, Grand Ledge; Dr. Clyde L. D. McLaughlin, Vermontville.

Genesee County.

Dr. G. H. Bahlman, Flint; Dr. C. S. Ballard, Flint; Dr. M. W. Clift, Flint; Dr. C. P. Clark, Flint; Dr. Henry Cook, Flint; Dr. V. H. DeSomoskeoy, Flint; Dr. J. W. Evers, Flint; Dr. G. R. Georing, Flint; Dr. B. Goodfellow, Clio; Dr. J. N. Houton, Flushing; Dr. J. Houston, Swartz Creek; Dr. J. G. R. Manwaring, Flint; Dr. F. B. Miner, Flint; Dr. R. S. Morrish, Flint; Dr. W. H. Marshall, Flint; Dr. J. W. Orr, Flint; Dr. A. T. Pauell, Flint; Dr. K. G. Pratt, Flint; Dr. F. E. Reeder, Flint; Dr. W. C. Reid, Grand Blanc; Dr. A. J. Reynolds, Flint; Dr. E. C. Rumer, Flint; Dr. H. E. Randall, Flint; Dr. F. A. Roberts, Flint; Dr. B. R. Sleeman, Linden; Dr. W. H. Winchester, Flint; Dr. L. S. Willoughby, Flint.

Gogebic County.

Dr. C. D. Collins, Ironwood; Dr. G. J. Curry, Watersmeet; Dr. E. B. Stebbins, Ironwood.

Grand Traverse-Leelanau County.

Dr. G. A. Holliday, Traverse City; Dr. G. M. Johnson, Traverse City; Dr. W. D. Mueller, Traverse City; Dr. E. L. Thirlby, Traverse City; Dr. L. N. Yerkes, Elk Rapids.

Gratiot-Isabella-Clare County.

Dr. Ralph E. Dawson, Blanchard; Dr. C. B. Gardner, Alma; Dr. C. D. Pullen, Mt. Pleasant; Dr. A. R. Mussell, Clare; Dr. B. J. Sanford, Clare; Dr. T. P. Vanderzalm, Blanchard; Dr. M. C. Hubbard, Vestaburg.

Hillsdale County.

Dr. W. R. Atterbury, Litchfield; Dr. T. H. E. Bell, Reading; Dr. B. F. Green, Hillsdale; Dr. E. A. Martindale, Hillsdale; Dr. H. C. Miller, Hillsdale; Dr. I. J. Stoner, Jonesville.

Houghton County.

Dr. J. F. Barton, Calumet; Dr. R. B. Harkness, Houghton; Dr. H. M. Joy, Calumet; Dr. N. S. MacDonald, Houghton; Dr. P. D. MacNaughton, Calumet; Dr. J. D. McKinnon, Calumet; Dr. F. F. Marshall Pequaming; Dr. V. L. Oler, Kearsarge; Dr. B. H. Olmsted, Calumet; Dr. L. M. Power, Hancock; Dr. James Rhines, Laurium; Dr. D. D. Todd, Adrian; Dr. A. R. Tucker, Mohawk; Dr. L. E. Werry, Calumet.

Huron County.

Dr. A. E. W. Yale, Pigeon.

Ingham County.

Dr. H. S. Bartholomew, Lansing; Dr. C. L. Barber, Lansing; Dr. M. L. Cushman, Lansing; Dr. F. J. Drolett, Lansing; Dr. Clara Davis, Lansing; Dr. C. W. Ellis, Lansing; Dr. L. A. Humphrey, Lansing; Dr. M. L. Holm, Lansing; Dr. H. B. Knapp, Lansing; Dr. H. W. Landon, Lansing; Dr. R. R. McCrumb, Lansing; Dr. C. H. Murphy, Lansing; Dr. H. A. Miller, Lansing; Dr. A. E. Owen, Lansing; Dr. R. A. Pinkham, Lansing; Dr. J. G. Rulison, Lansing; Dr. M. Shaw, Lansing.

Ionia County.

Dr. Verner H. Kitson, Ionia; Dr. Julius H. Powers, Ionia; Dr. Perry C. Robertson. Ionia; Dr. Frederick L. Morse. Lake Odessa; Dr. Nelson McLaughlin, Lake Odessa.

Jackson County.

Dr. W. B. Anderson, Jackson; Dr. H. D. Brown, Jackson; Dr. R. Cooley, Jackson; Dr. C. R. Dengler, Jackson; Dr. C. E. DeMay, Jackson; Dr. W. H. Enders, Jackson; Dr. H. L. Hurley, Jackson; Dr. Thos. Hackett, Jackson; Dr. R. G. Hendricks, Jackson; Dr. W. Lake, Grass Lake; Dr. R. H. Leece, Munith; Dr. D. B. Marsh, Jackson; Dr. J. J. McCormick, Jackson; Dr. C. D. Munro, Jackson; Dr. Fred Main, Jackson; Dr. J. A. McQuillan*, Jackson; Dr. J. O'Mara, Jackson; Dr. E. S. Peterson, Jackson; Dr. G. Seybold, Jackson; Dr. G. E. Winter, Jackson.

*Killed in France, October 26, 1918.

Kalamazoo Academy of Medicine.

Dr. R. U. Adams, Kalamazoo; Dr. Ralph E. Balch, Kalamazoo; Dr. W. Collins, Kalamazoo; Dr. O. H. Clark, Kalamazoo; Dr. L. J. Crum, Kalamazoo, Dr. A. E. Henwood, Kalamazoo; Dr. W. H. Kenzie, Richland; Dr. R. G. Leland, Kalamazoo; Dr. R. A. Morter, Kalamazoo; Dr. N. W. Pinto, Kalamazoo; Dr. R. E. Weeks, Augusta; Dr. G. F. Willey, Kalamazoo; Dr. F. S. Collier, Vicksburg; Dr. D. H. Eaton, Kalamazoo; Dr. J. F. Berry, Kalamazoo; Dr. D. W. Crankshaw, Lawrence; Dr. N. D. Murphy, Bangor; Dr. John Stewart, Hartford; Dr. H. W. Wiley, South Haven; Dr. L. E. Wescott, Gobleville; Dr. W. R. Vaughn, Plainwell; Dr. O. D. Hudnutt, Otsego; Dr. E. D. Osmun, Allegan; Dr. R. P. Stark, Alle-

gan, Dr. H. Stuck, Allegan; Dr. H. Whitney, Otsego; Dr. W. A. Singleton, Hickory Corners.

Kent County.

Dr. H. J. Beel, Grand Rapids; Dr. H. Blackburn, Grand Rapids; Dr. R. C. Breece, Ada; Dr. J. S. Brotherhood, Grand Rapids; Dr. F. A. Boet, Comstock Park; Dr. A. M. Campbell, Grand Rapids; Dr. L. H. Chamberlin, Grand Rapids; Dr. J. R. Coryell, Grand Rapids; Dr. B. R. Corbus, Grand Rapids; Dr. C. W. Deaver, Grand Rapids; Dr. P. J. DePree, Grand Rapids; Dr. H. W. Dingman, Grand Rapids; Dr. J. C. Foshee, Grand Rapids; Dr. C. M. Freeman, Ada; Dr. T. D. Gordon, Grand Rapids; Dr. H. A. Grube, Grand Rapids; Dr. J. T. Hodgen, Grand Rapids; Dr. J. N. Holcomb, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. C. Kenning, Grand Rapids; Dr. F. C. Kinsey, Grand Rapids; Dr. W. D. Lyman, Grand Rapids; Dr. J. H. Muller, Grand Rapids; Dr. A. M. Martin, Grand Rapids; Dr. A. A. McNabb, Grand Rapids; Dr. A. G. McPherson, Grand Rapids; Dr. L. E. Sevey, Grand Rapids; Dr. R. R. Smith, Grand Rapids; Dr. A. B. Smith, Grand Rapids; Dr. F. N. Smith, Grand Rapids; Dr. R. E. Toms, Grand Rapids; Dr. R. T. Urquhart, Grand Rapids; Dr. P. Ver Meulen, Grand Rapids; Dr. W. E. Wilson, Grand Rapids; Dr. S. M. Wells, Grand Rapids; Dr. J. B. Whinnery, Grand Rapids; Dr. F. C. Warnshuis, Grand Rapids.

Livingston County.

Dr. Vern N. Richesen, Howell; Dr. William J. Rynearson, Parshallville.

Macomb County.

Dr. Henry G. Berry, Mt. Clemens; Dr. Harold A. Kirkham, Mt. Clemens; Dr. Charles A. Martin, Mt. Clemens; Dr. Harry F. Taylor, Mt. Clemens; Dr. Russell W. Ullrich, Mt. Clemens; Dr. Arthur J. Warren, Mt. Clemens; Dr Robert M. Greenshields, Romeo; Dr. Edgar J. Miller, Romeo; Dr. Milton C. Smith, Romeo; Dr. C. B. Lockwood, Washington.

Manistee County.

Dr. Lee Lewis, Manistee; Dr. A. A. McKay, Manistee; Dr. H. McMullen, Manistee; Dr. W. Norconk, Bear Lake; Dr. L. Ramsdell, Manistee.

Marquette County.

Dr. I. Abrahanson, Negaunee; Dr. A. V. Braden, Ishpeming; Dr. H. T. Carriel, Marquette; Dr. W. B. Lunn, Marquette; Dr. C. J. Larson, Negaunee; Dr. I. Sicotte, Michigamme; Dr. L. L. Youngquist, Marquette.

Mecosta County.

Dr. Wm. T. Dodge, Big Rapids; Dr. Rolla G. Karshner, Big Rapids; Dr. Glen D. Ransom, Big Rapids; Dr Gordon H. Yeo, Big Rapids.

Menominee County.

Dr. C. R. Elwood, Menominee; Dr. W. R. Hicks, Menominee; Dr. E. V. McComb, Menominee; Dr. H. T. Sethney, Menominee.

Midland County.

Dr. Chas. V. High, Sr., Coleman; Dr. John E. Heslop, Edenville; Dr. James H. Johnson, Midland; Dr. Rene J. St. Louis, Midland.

Monroe County.

Dr. Hugh R. Hildebrant, Dundee; Dr. Herbert W. Landon, Monroe; Dr. Frederick C. Thiede, Monroe.

Montcalm County.

Dr. Don V. Hargrove, Carson City; Dr. Albert S. Barr, Greenville; Dr. Albert J. Bower, Greenville; Dr. Noble W. Miller, Howard City; Dr. Lee E. Kelsey, Lakeview; Dr. Mortimer E. Danforth, Stanton.

Muskegon County.

Dr. C. M. Colignon, Muskegon; Dr. H. S. Cole, Whitehall; Dr. B. R. Eastman, Muskegon; Dr. W. L. Herick, Whitehall; Dr. F. W. Hannum, Muskeon; Dr. V. S. Laurin, Muskeon; Dr. F. N. Morford, Muskegon; Dr. E. S. Thornton, Muskegon.

Oakland County.

Dr. F. S. Bachelder, Pontiac; Dr. S. A. Butler, Pontiac; Dr. L. G. Campbell, Birmingham; Dr. L. A. Farnham, Pontiac; Dr. F. D. German, Franklin; Dr. G. W. MacKinnon, Oxford; Dr. E. E. Orton, Pontiac; Dr. G. P. Raynale, Birmingham.

Oceana County.

Dr. C. Day, Clinton; Dr. G. F. Lamb, Pentwater.

Ontonagon County.

Dr. E. J. Evans, Rockland; Dr. E. A. Florentine, Ewen; Dr. J. L. Kelliher, Phoenix; Dr. E. A. Linger, Rockland; Dr. D. L. Lutes, Victoria.

Ottawa County.

Dr. John J. Miller, Berlin; Dr. Harry Lieffers, Coopersville; Dr. Cornelius J. Addison, Grand Haven; Dr. George H. Thomas, Holland; Dr. William Westrate, Holland; Dr. Clayton A. White, Nunica; Dr. Joe DePree, Zeeland; Dr. W. C. Kools, Holland.

Saginaw County.

Dr. Harvey B. McCrory, Birch Run; Dr. George W. Peart, Burt; Dr. Geo. L. Alger, Saginaw; Dr. James D. Bruce, Saginaw; Dr. Benj. F. A. Crane, Saginaw; Dr. Walter A. DeFoe, Saginaw; Dr. Wm. F. English, Saginaw; Dr. Bernhard Friedlaender, Saginaw; Dr. Leon B. Harris, Saginaw; Dr. Matthew Kollig, Saginaw; Dr. Alexander R. McKinney, Saginaw; Dr. Henry J. Meyer, Sag-

inaw; Dr. Wm. L. Miller, Saginaw; Dr. James L. Passmore, Saginaw; Dr. Norman J. Pike, Saginaw; Dr. Emil P. W. Richter, Saginaw; Dr. Bert B. Rowe, Saginaw; Dr. John T. Sample, Saginaw; Dr. Roy S. Watson, Saginaw; Dr. Arthur E. Leitch, Saginaw.

Sanilac County.

Dr. H. H. Angle, Snover; Dr. J. C. Webster, Peck; Dr. C. G. Woodhull, Decker.

Shiawassee County.

Dr. James A. Rowley, Durand; Dr. Hermon E. Boice, Byron; Dr. Robt. R. Fox, Byron; Dr. Thos. G. Amos, Henderson; Dr. Glenn T. Soule, Henderson; Dr. Alfred F. Arnold, Owosso; Dr. James J. Haviland, Owosso; Dr. Harold A. Hume, Owosso; Dr. Jesse O. Parker, Owosso; Dr. Geo. P. Sackrider, Owosso; Dr. Egerton T. Wilson, Owosso; Dr. William H. Dunham, Shaftsburg; Dr. Arden N. Howe, Vernon.

St. Clair County.

Dr. I. P. Bowden, Port Huron; Dr. F. V. Carney, St. Clair; Dr. G. M. Kesl, Port Huron; Dr. A. J. MacKenzie, Port Huron; Dr. D. W. Patterson, Blain; Dr. G. Waters, Memphis; Dr. W. G. Wight, Yale.

St. Joseph County.

Dr. John J. Kelley, Burr Oak; Dr. Wm. E. Doran, Colon; Dr. Arthur W. Scidmore, Three Rivers.

Tuscola County.

Dr. F. P. Bender, Caro; Dr. W. C. Garvin, Millington

Washtenaw County.

Dr. James F. Breakey, Ann Arbor; Dr. H. B. Britton, Ypsilanti; Dr. R. B. Canfield, Ann Arbor; Dr. H. W. Emerson, Ann Arbor; Dr. N. B. Foster, Ann Arbor; Dr. C. George, Jr., Ann Arbor; Dr. H. Malagan, Ann Arbor; Dr. Reuben Peterson, Ann Arbor; Dr. V. C. Vaughan, Ann Arbor; Dr. U. J. Wile, Ann Arbor.

Wayne County.

Dr. De Witt C. Adams; Dr. Edward J. Agnelly; Dr. Herman F. Albrecht; Dr. Frank C. Anderson; Dr. Warren L. Babcock; Dr. Frederick W. Baeslack; Dr. Max Ballin; Dr. Don C. Bartholomew; Dr. Charles Barton; Dr. Robert J. Baskerville; Dr. Robert Beattie; Dr. Harold A. Beck; Dr. Clarence H. Belknap; Dr. William O. Benjamin; Dr. Zina B. Bennett; Dr. Harry S. Berman; Dr. Isadore I. Bittker; Dr. Fred H. Blanchard; Dr. Jacob R. Bolasny; Dr. Edmund W. Bolio; Dr. Ralph H. Bookmyer; Dr. Richard F. Boonstra; Dr. Henry R. Boyes; Dr. Frank B. Broderick; Dr. Clark D. Brooks; Dr. William H. Browne; Dr. Wm. S. Brownell; Dr. Bruno B. Brunke; Dr. John D. Buck; Dr. Frederick G. Buesser; Dr. Glenn A. Bulson; Dr. John K. Burns, Jr.; Dr. Lowell M. Bush; Dr. Thos. P. Camelon; Dr. Geo. H. Campau; Dr. Duncan A. Campbell; Dr. Clarence Candler; Dr. Edward K. Carmichael; Dr. Glenn B. Carpenter; Dr. James G. Carr; Dr. Henry R. Carstens; Dr. John H. Carstens; Dr. Albert E. Catherwood; Dr. Aaron Lee Chapman; Dr. Clarence A. Christensen; Dr. Harold F. Closz; Dr. Don A. Cohoe; Dr. Homer C. Collins; Dr. Lannes I. Condit; Dr. Ray Connon; Dr. Bernard F Corbett; Dr. Langdon T. Crane; Dr. Ernest K. Cullen; Dr. Hampton P. Cushman; Dr. Samuel S. Danziger; Dr. Milton A. Darling; Dr. Jos. L. Desrosiers; Dr. Harry F. Dibble; Dr. John C. Dodds; Dr. Daniel R. Donovan; Dr. Ira G. Downer; Dr. David B. Downing; Dr. George A. Drescher; Dr. Leo J. Dretska; Dr. Adolph E. Dreyer; Dr. Charles F. DuBois; Dr. Frederick Eakins; Dr. Clarence H. Eisman; Dr. Rollan R. Ensor; Dr. Arthur W. Erkfitz; Dr. George E. Fay; Dr. Ray L. Fellers; Dr. Charles J. Foley; Dr. Antonio J. Font; Dr. Walter D. Ford; Dr. Henry E. Fraser; Dr. George E. Frothingham; Dr. Claude B. Gaines; Dr August E. Gehrke; Dr. Isaac S. Gellert; Dr. Wm. S. Gonne; Dr. John W. Gordon; Dr. James Gostanian; Dr. Raymond S. Goux; Dr. Wm. Gramley; Dr. Hunter L. Gregory; Dr. Thos. R. K. Gruber Dr. Samuel C. Gurney; Dr. E. W. Haass; Dr. Carl Hanna; Dr. Beverly D. Harison; Dr. Winfred B. Harm; Dr. Albert E. Harris; Dr. Earl R. Harris; Dr. John G. Harvey; Dr. James W. Hawkins; Dr. Austin W. Heine; Dr. Wm. Henderson; Dr. Preston M. Hickey; Dr. Louis J. Hirschman; Dr. Geo. Hoffmeister; Dr. Arthur D. Holmes; Dr. Lawrence N. Host; Dr. Abraham W. Hudson; Dr. Harold S. Hulbert; Dr. Leroy W. Hull; Dr. Willard H. Hutchins; Dr. James W. Inches; Dr. Harry H. Jackson; Dr. Byron H. Jenne; Dr. Alpheus F. Jennings; Dr. Charles G. Jennings; Dr. Nathan J. Jessup; Dr. Morrell M. Jones; Dr. Ladislaus R. Kaminski; Dr. Zeno L. Kaminski; Dr. Wm. J. Kane; Dr. John F. Kelly; Dr. Johnston B. Kennedy; Dr. Wm. Y. Kennedy; Dr. Frederick C. Kidner; Dr. Edw. D. King; Dr. Paul A. Klebba; Dr. Geo. L. Koessler; Dr. Abraham Kovinsky; Dr. Albert H. Krohn; Dr. Duffield R. Kruger; Dr. Alfred D. LaFerte; Dr. Rudolph H. Lambert; Dr. Carl N. Larsen; Dr. Bror H. Larsson; Dr. A. F. J. Lecklider; Dr. Ernest C. Lee; Dr. Henry R. Leibinger; Dr. Daniel J. Leithauser; Dr. Alfred E. Lemon; Dr. Paul H. Lippold; Dr. Nelson MacArthur; Dr. Robert B. Macduff; Dr. Frank B. MacMullen; Dr. Otis B. Mallow; Dr. Vincent S. Mancuso; Dr. Walter W.

Manton; Dr. Thos. B. Marsden; Dr. Robert M. Martin; Dr. James D. Matthews; Dr. Kenneth F. Maxey; Dr. Emil V. Mayer; Dr. Willard D. Mayer; Dr. Frederick McAfee; Dr. Arthur McArthur; Dr. James H. McCall; Dr. Wm. R. McClure; Dr. Carey P. McCord; Dr. Crawford W. McCormick; Dr. Theodore A. McGraw, Jr.; Dr. George E. McKean; Dr. Angus McLean; Dr. H. O. McMahon; Dr. Charles H. Merrill; Dr. Ellsworth P. Mills; Dr. Robert C. Moehlig; Dr. Stephen G. Mollica; Dr. Harold L. Morris; Dr. Walter Muellenhagen; Dr. Charles R. Mueller, Jr.; Dr. Thos. F. Mullen; Dr. Arthur J. Neumann; Dr Frederick H. Newberry; Dr. Arthur W. Newitt; Dr. Harry J. Noble; Dr. Ralph A. Norris; Dr. Wm. A. O'Brien; Dr. Harold F. Ohrt; Dr. Geo. V. Oill; Dr. Robert W. G. Owen; Dr. Leon E. Pangburn; Dr. W. R. Parker; Dr. G. C. Penberthy; Dr. O. W. Pickard; Dr. Lyman J. Pinney; Dr George E. Potter; Dr. Presley L. Pound; Dr. Wm. H. Price; Dr. Wynand V. Pyle; Dr. O. M. Randall; Dr. Claude B. Ray; Dr. Harry W. Reed; Dr. Heinrich A. Reye; Dr. James M. Robb; Dr. Paul C. Rohde; Dr. Herman H. Runo; Dr. Frank L. Ryerson; Dr. Homer E. Safford; Dr. Wm. G. Schlegelmilch; Dr. Harry B. Schmidt; Dr. Ernest C. Schultz; Dr. James B. Seeley; Dr. Ward F. Seeley; Dr. A. M. Shafer; Dr. Reed A. Shankwiler; Dr. Lyle O. Shaw; Dr. Harold K. Shawan; Dr. Wm. L. Sherman; Dr. Burt R. Shurley; Dr. Arthur R. Smeck; Dr. A. L. Smith; Dr. Clarence V. Smith; Dr. Eugene Smith, Jr.; Dr. Frank H. Smith; Dr. Frederick J. Smith; Dr. T. H. Smith; Dr. Clarence Stefanski; Dr. Frank T. F. Stephenson; Dr. Alexander M. Stirling; Dr. Lindley H. Stout; Dr. Luther H. Stout; Dr. Frank Suggs; Dr. Hugh A. Sullivan; Dr. Angus P. Sutherland; Dr. Rolfe Tainter; Dr. Griffith A. Thomas; Dr. Arthur R. Timme; Dr. Charles L. Tomsu; Dr. Harry N. Torrey; Dr. Emmett C. Troxell; Dr. Arthur Turner; Dr. Clyde R. Van Gundy; Dr. James A. Van Horne; Dr. George Van Rhee; Dr. Colin C. Vardan; Dr. John W. Vaughan; Dr. Victor C. Vaughan, Jr.; Dr. Milton D. Vokes; Dr. Frank B. Walker; Dr. Jos. A. Wall; Dr. Charles R. Walsh; Dr. Frank N. Wilson; Dr. George W. Wilson; Dr. Robert A. Wollenberg; Dr. Grover C. Wood; Dr. Harry B. Yoh; Dr. John C. Young, Detroit. Joseph H. Chance, Eloise; Dr. Robert H. Carmichael, Hamtramck; Dr. Martin W. Caveney, Highland Park; Dr. Geo. S. Foden, Highland Park; Dr Richard H. Juers, Highland Park; Dr. Thomas B. Henry, Northville; Dr. Lewis N. Tupper, Redford; Dr. Roy Du B. Tupper, Redford; Dr. Howard B. Kinyon. Trenton; Dr. Romeo H. Earle, Wayne; Dr. Glen L. Coan, Wyandotte; Dr. Wm. H. Homer, Wyandotte; Dr. Joseph G. Knapp, Wyandotte; Dr. John N. Bell, Detroit.

Book Reviews

SURGICAL TREATMENT. A Practical Treatise on the Therapy of Surgical Diseases for the use of Practitioners and Students of Surgery. By James Peter Warbasse, M.D., formerly attending surgeon to the Methodist Episcopal Hospital, Brooklyn, N. Y. In 3 large octavo volumes, and separate Desk Index Volume. Volume II contains 829 pages with 761 illustrations. Philadelphia and London: W. B. Saunders Company. 1918. Per set (three volumes and the index volume); cloth, $30.00.

Volume two carries out the systematic effort at simplicity of volume one. The author has succeeded well in including up to date proceedures. He has also added a valuable work on regional technic to the library of the surgeon. Some of the illustrations as might be expected are rather diagromatic, but for the younger surgeon and surgical student this is probably an advantage rather than otherwise.

THE SURGICAL CLINICS OF CHICAGO. Volume 2, Number 6, October, 1918. Octavo of 193 pages with 87 illustrations. Published bi-monthly by The W. B. Saunders Company, Philadelphia and London.

This number gives many helpful suggestions to the general practitioner and specialist. The Presbyterian Hospital Clinics contain some rare and many common surgical cases. "The clinical problems relating to the fancial Tonsils," by Shambaugh shows a conservative point at times and at other times a radical point. The tonsil will always be a disputed ground and must depend upon the specialist himself. It has been handled so nicely that the doctor should be congratulated.

The case reports of "Plaster Face," and "Reconstruction of Ears and Nose" are very interesting as so much reconstructive work will have to be done as a result of the war. These cases will form an incentive to follow methods therein advised with variations according to circumstances while remembering suggestions herein made.

The simple operation of Perineorrhaphy is very suggestive of good results. Fracture cases are ever with us but the cases of Dr. A. J. Ochsner are very interesting. Dr. Charles M. McKenna's "A Clinic on Genito-Urinary Surgery" is of special interest. Dr. Bernstein's clinics and case reports are extremely important and deserve congratulations as they are of everyday findings.

THE MEDICAL CLINICS OF NORTH AMERICA. September, 1918. U. S. Army Number, Volume 2, Number 2. Published Bi-Monthly by The W. B. Saunders Company, Philadelphia and London.

This volume is replete with research work of the base army hospital on diseases of the respiratory apparatus, tachycardia complications, measles, mumps, and post operative pneumonias. The study of the epidemics at Camp Zachary Taylor has been attended by such thoroughness and details that the busy practitioner can gain only valuable information. So also in regard to the streptococcal pneumonias of the army camps. To appreciate the functions of a base hospital one must either be a resident of the same in the care of the sick and wounded and in the prevention of disease or have it explained and the reason therefor as given by Dr. Frothingham. Each cantonment having their own particular form and although varying, the ultimate good is the same. The results of the cardiovascular boards,

their team work, their early recognition of tachycardia, and their divisions for acceptance and rejection makes by condensation a work finished in itself. In the study of cerebro spinal meningitis on account of the great number of cases that have developed at the cantonment, a conception of causation has been established. The report of Lieut. Morris H. Kohn goes into detail in the discussion of Paroxysmal Tachycardia. All of these keep up the high standards of the North American Clinics.

MANUAL OF OTOLOGY. By G. Bacon, A.B., M.D., F.A.C.S., formerly Professor of Otology, College of Physicians and Surgeons, Columbia University; Aural Surgeon, New York Ear and Eye Infirmary, etc.; and Truman L. Saunders, A.B., M.D., Assistant Professor of Laryngology and Otology, College of Physicians and Surgeons; Assistant Surgeon Bellevue Hospital, etc. New 7th edition, cloth, $3.00; 583 pages with 204 illustrations. Lea & Febiger, New York and Philadelphia.

This new edition is as it always has been—a distinct value to the busy practitioner and student and a reference to the specialist. The chapter devoted to the adenoids and labyrinth has been revised by T. Saunders.

SURGERY IN WAR. By Alfred J. Hull, F.A.C.S., Lieut.-Colonel Royal Army Medical Corps; Surgeon, British Expeditionary Force, France. Late Lecturer on Surgical Pathology, Royal Army Medical College, Millbank; and Surgeon, Queen Alexandra Military Hospital. Second edition revised, 210 illustrations, 800, XV + 624 pages. Cloth, $6.00. P. Blakiston's Son & Co., Philadelphia, Pa.

A preface by Lieut.-Gen. T. H. J. C. Goodwin, C.B., C.M.G., D.D.O., Director General Army Medical Service, Great Britain.

A preface by the author and an introduction by E. M. Pilcher.

Contributors on a variety of phases of war surgery supplement the authors views and experiences.

The book is well written. The prefaces and introduction indicate the spirit and purpose of the volume i. e. to give a concise treatise and a practical working knowledge of the new methods and procedures which are bound to supplant many of the older methods of practice in war and industrial surgery.

The illustrations are unusually enlightening, particularly those demonstrating the application of splints and treatment of bone injuries.

The contributions on the Carrell Dakin treatment of infected wounds, on microbic infection, bone injuries, gun shot wounds of chest and abdomen, brain and spine injuries and injuries to blood vessels and nerves will make this a very useful book not only for army surgeons but for those engaged in industrial surgery.

MANUAL OF GYNECOLOGY. By J. C. Hirst, M.D., Associate in Obstetrics, University of Pennsylvania. Cloth. Price $2.50. 466 pages with 175 illustrations. Philadelphia: W. B. Saunders Co., 1918.

The aim of the author in this revision was to cut out all nonessentia's which go to fill so many manuals, and to present to the student what is possible in this condensed form. The illustrations are very good. The newer methods that have been tested for the safety of the mother during pregnancy and labor have been clearly outlined and facts vital to obstetrics maintained.

PATHOLOGICAL TECHNIC. A practical Manual for workers in Pathologic Histology & Bacteriology. Including Directions for the performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M.D., Associate Professor of Pathology, Harvard Medical School; and J. B. Wright, M.D., Pathologist to the Massachusetts General Hospital. Seventh edition, revised and enlarged. Octavo of 555 pages with 181 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth $3.75.

This very useful little book comes out in a somewhat condensed and rearranged form. The chapter on autopsy technic is made the last instead of the first, the work beginning with the laboratory examination of tissue followed by the methods of bacterial work. The material is brought down to date by very few additions among which. Good pastures Acid polychrome Methylene Blue method for staining frozen sections, Benians Congo red method for spirochetes, Claudius stain for flagellae, and the method of classifying pneumonia, deserve special mention. Altogether the work sustains its reputation as one of the laboratory workers most useful reference books, and will be a very great aid to all practitioners who do any laboratory work.

A HANDBOOK OF COLLOID-CHEMISTRY. By Dr. Wolfgang Ostwald, Privatdozent in the University of Leipzig. Second English Edition, translated from the Third German Edition by Dr. Martin H. Fischer, Professor of Physiology in the University of Cincinnati, with numerous notes added by Emil Hatschek, Cass Institute, London; 284 pages and 63 illustrations. Philadelphia: P. Blakiston's Son & Co. Price $3.50.

The Handbook of Colloid-Chemistry by Dr. Wolfgang Ostwald and Dr. Martin Fischer, deserves special mention as to its excellent merits.

The book explains scientific work of a high order yet written in such form as to be readily understood.

Especially interesting is the chapter of Bronnian movement and that Osmosis of Colloid systems. One is well repaid in reading of the latest advances made in the study of Colloid solutions.

A TEXTBOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D. Fully illustrated, Sixth Edition, thoroughly revised. Philadelphia: W. B. Saunders Company, 1918. Price $3.75.

The book on "General Bacteriology" by Edwin O. Jordan, published by W. B. Saunders Co. needs no introduction to the western reader of Bacteriology. Its chief merit is its brevity on the less important chapters. The chapters on pneumococcus and meningococcus together with the new data on trench fever, infectious jaundice and ratbite fever are especially valuable. Not only the Bacteriologist but the general scientific student should add this book to his library.

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE. By J. J. R. Macleod, M.B., assisted by Roy G. Pearce, B.A., and by others. St. Louis: C. V. Mosby Co., 1918; 903 pages with 233 illustrations including 11 plates in colors. 800, Cloth, $7.50.

The book "Physiology and Biochemistry in Modern Medicine" by Macleod, published by C. V. Mosby Co., is a book for which there is a distinct place in the medical man's library. It seems to have had for its aim the connecting of abstract diadactic laboratory knowledge with the data of the clinical investigator, helping him in the physiological interpretation of the diseased condition. With this aim in view it has wisely avoided the attempt of emphasizing the usual experimental physiology of first and second year which are more directly connected with special medicine, as physiology of nerve

and muscle, special senses, and reproduction physiology. It has paid particular attention to the far-reaching applications of the latest department of medical science, i. e. acidosis, goitre, nephritis, diabetes, and myxedema. It has also left out any extensive consideration of serum diagnosis which it recognises as a highly special science worthy of separate consideration. I think for the student who is about to enter his third and fourth year clinical work, this is an especially good book, and for the general practitioner who wishes to brush up on the physiological reason for clinical pathology.

The references to the outside literature consulted in preparing this work give the reader a feeling of confidence in the conclusions drawn and the text accepted.

A TEXT-BOOK OF PHYSIOLOGY: FOR MEDICAL STUDENTS AND PHYSICIANS. By W. H. Howell, Ph.D., M.D., Professor of Physiology, Johns Hopkins University, Baltimore. Seventh Edition Thoroughly Revised. Octavo of 1,059 pages, 307 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, $5.00 net.

The seventh edition of a work so well and favorably known appearing thirteen years after the first publication needs no discussion farther than to welcome and commend.

The division of the contents into sections together with a carefully aranged index, makes it a valuable work of reference as well as a text-book.

While it would be practically impossible to incorporate all the new material that diligent study and investigation have brought forth in the past three years, this work embodies all that is necessary to make it up-to-date, and covers it in a masterly manner.

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. Delee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Third Edition, thoroughly revised. Large octavo of 1,089 pages, with 949 illustrations 187 of them in colors. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, $8.50 net.

The more experienced the obstetrician the more thoroughly will be his accord with the teachings of this book. A scholarly and well written treatise gotten up in the easily readable manner with the well chosen topic heads and with the beautiful and instructive illustrations it is a very valuable text-book and ready reference.

The author as well as publishers are to be congratulated.

NEOPLASTIC DISEASES. A text-book on Tumors. By James Ewing, M.D., Sc.D., Professor of Pathology at Cornell University Medical College, New York City. Octavo of 1,027 pages with 479 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth $10.00 net.

An analysis of so great a storehouse of observation and theoretical consideration is not possible within the limits of a review article. Chapters II and III dealing with the definition, classification, general pathology and malignancy and its effect on the organism, is a masterly review of the knowledge on this subject and should be recommended as a valuable work of reference.

The detailed description of the various neoplasms is written in a manner that gives evidence of a profound knowledge of the subject and a wide and sound clinical experience.

This important volume should be in the library of every physician.

A STUDY OF SEVENTY CASES OF CEREBROSPINAL MENINGITIS.

Seham in writing in *Minnesota Medicine* for October, 1918, as a result of this large experience gives the following advice:

In the premengitis stage, if the spinal fluid is clear, the serum may be used intramuscularly or intravenously, preferably the latter, but if signs of meningeal irritation have developed the intraspinal method alone, or combined with either of the two mentioned, must be used. Parke-Davis serum was used in the majority of his cases; in some Lederle, in a few Mulford, and in three chosen cases the serum from the Rockefeller Institute. The minimum number of injections to one patient was two, the largest number forty-four; the average number to each patient was seven. The general rule was to give the serum daily for five days, and then, if the fluid was clear, the general condition of the patient much improved, the serum was discontinued.

The dose of the serum has never been standardized, since we have no definite measure of potency. The average dose used for children was 15 Cc., providing that 15 Cc. or more of spinal fluid was removed at the same time. It is not safe to give more serum than spinal fluid withdrawn. In adults 30 Cc. was usually given, and in several instances, where excessively large amounts of fluid were withdrawn, 45 Cc. of serum was given. There is too great danger in giving a large dose at one time of causing undue pressure. If a dry tap was obtained, or only a few drops of spinal fluid, between 5 and 10 Cc. of serum was given. The administration of serum must be considered a major operation. The patient must be watched very closely for signs of collapse. Sophian's method of accurately recording the spinal pressure during the giving of serum must be a very safe procedure, even though it is not considered practical by all authorities. He was not in a position to use this method, because of the very large number of patients and the lack of assistance. The respirations, especially, should be watched, and at the first sign of collapse either camphorated oil or cocaine and atropine should be given hypodermically, and if respiration stops, artificial resuscitation should be employed. Also, at the same time, the tube containing the serum should be lowered, in order to allow the serum and the spinal fluid to flow out. Six of the patients showed such collapse, and these occurred before the gravity method was instituted. At first the syringe apparatus was used entirely; the fluid was directly injected with a syringe, but a death resulted with this method, and the so-called "gravity method" was used entirely thereafter. Very frequently the patient complained of severe pains in the back, legs, and head, sometimes at the beginning of the injection, but usually after. This pain is very severe and may persist for some time. Warm serum has been recommended to lessen the pain, but it possessed no definite value.

The so-called "water anesthesia," allowing the patient to suck water through a tube while the serum is being administered, is recommended by Sophian. The pain is, at times so severe that the patient's attention cannot be diverted, and again, the patient may be semicomatose; Seham did not find this method valuable. He used no anesthetic whatsoever, except in one case, in which laughing-

gas was used. A general anesthetic is useless in this condition, and so also is local anesthesia. If the patient is very unruly, and assistance is lacking, an anesthetic may be necessary in order to do a lumbar puncture.

WHEN TO DISCONTINUE THE SERUM.

1. The condition of the spinal fluid.
2. General condition of the patient.

At the onset of the disease the spinal fluid is nearly always cloudy, contains many extracellular organisms and many pus cells, and is under increased pressure. Usually at the end of five daily injections of serum the fluid clears up, the organisms disappear, and there are very few pus cells, or none at all. At the same time the patient's mental condition improves, the temperature drops, and the rigidity of the neck and extremities decreases. The serum should be discontinued under these conditions. After this a lumbar puncture, for a period of another week, should be done upon alternating days, to see whether the fluid remains normal. Even though clinical signs have improved, if the fluid should become cloudy again and pus cells and organisms return, the serum should be immediately readministered. If one is uncertain, the patient should always be given the benefit of the doubt, by the injection of serum. The fluid clears up, on an average, about the tenth day.

CARBOHYDRATES IN DIABETES.

In the progress of our knowledge of the nature of diabetes there has been a marked reaction against the entire withdrawal of the carbohydrates from the dietary of the diabetic. For a time there was even a tendency to administer carbohydrates as a curative measure and the "carbohydrate cure" seemed all but established. Then came the understanding that the carbohydrates cannot be withdrawn from the dietary of the individual without increasing the tendency to acidosis, or of precipitating a grave acidosis where previous to the carbohydrate withdrawal there was only a mild one. It is found that when the carbohydrate withdrawal is persisted in, acetone bodies soon appear in the urine. As the sugar disappears the acidosis appears. It must be understood that the presence of sugar in the urine is of importance only as indicating that the sugar is not being oxidized or utilized. As long as enough sugar is oxidized there is no harm in some or even a great deal passing through unoxidized, but as soon as the amount oxidized becomes deficient then acetone appears. Even in rather severe diabetes the organism can oxidize some sugar. If in these cases not enough carbohydrates are given to satisfy the meager demands and oxidizing powers of the organism, acidosis follows, so that in cases treated with carbohydrate withdrawal, in whom acidosis threatens, carbohydrates must be administered to forestall the event. Moreover with the withdrawal of the carbohydrates, so necessary for the production of heat and energy, the organism draws upon the proteins of the body for its carbohydrates. It is shown, in fact, that with the increase of the carbohydrate intake there is a decrease in the protein consumption. Whether the protein of the body is utilized in great quantities, or more proteins are consumed to make up for the carbohydrate deficiency, increased protein metabolism means a large increase in the metabolic burden of the body. For the organism with a defective metabolic system, as evidenced by the presence of diabetes, this added metabolic activity is very harmful. Besides, protein metabolism is the most potent factor in the production of acid; indeed, protein food may be called acid food. In addition to the natural hypoalkalinity of diabetes there is, then, the increased acid production—and acidosis is bound to follow. The administration of carbohydrates reduces the protein metabolism sufficiently to prevent acidosis, where the carbohydrates oxidizing power is not too far gone.

When the value of administering carbohydrates in diabetes was first understood it was thought that certain carbohydrates behaved differently from others. Oatmeal was supposed to have a special value as a carbohydrate cure because it was thought that the starch in it had a special action; that it had certain special ferments or extractives of value; or that it reduced the permeability of the kidneys to sugar. None of these hypotheses has any substantiation, and any value that oatmeal has in the so-called "oatmeal cure" must be ascribed to the general value of carbohydrate administration, where there is a defective carbohydrate oxidation, and where the organism is using up its own body proteins to make up the deficiency naturally withdrawn in a mistaken notion of treatment.

The most recent conception of the proper treatment of diabetes takes into consideration the metabolic disturbance at the base of the disease, as well as the part that the carbohydrates play in the disease. The starvation treatment has for its object, therefore, the resting of the metabolic system for the period of the starvation. The subsequent dietary treatment no longer contemplates the withdrawal of the carbohydrates, but rather that they be given in sufficient quantities for the needs of the system, without necessitating drawing on the body proteins. On the other hand, it is not intended to tax the metabolic processes by administering large quantities of food. Every element of food is reduced to the minimum needs of the body. When it is remembered that a reduction of half of every one's dietary would be beneficial rather than harmful, there need be no fear of underfeeding in an organism whose metabolic system is damaged. Most of all, is the protein kept at a minimum in order to reduce the tendency to acid production.—Boston Medical and Surgical Journal, June 6, 1918.

"AFFLICTION MAY ONE DAY SMILE AGAIN."

By Constance Winifred Stumpe.

He is a man of attractive mien, middle-aged and gray, with clean cut features and an expression of utmost kindliness. And he has done his part in the war as few men have, for in founding St. Dunstan's Hospital for Men Blinded in Battle, Sir Arthur Pearson has brought light to the lives of hundreds of soldiers who have given their eyes for England.

Sir Arthur is proud of his school, as he may well be, and prouder still of its happy pupils who are

learning to make four senses do the work of five, and still finding life good.

St. Dunstan's was opened in 1915, in the London residence of Otto H. Kahn, of New York. It is the only institution of its kind maintained by private initiative and voluntary contributions. Its student body numbers 400; 600 have already been launched anew in life, well satisfied with the training and encouragement they have received, and well able to meet life and make their own way—not as "blind men," but as "normal men who have lost their sight." Maudlin sentiment and pity have no place at St. Dunstan's. The men are taught self-reliance from the first and not permitted for a moment to consider themselves afflicted." Handicapped, perhaps, but afflicted, never!

The pupils are taught to read by the perfected Braille system, and it has been observed that the average blind student acquires the rudiments of Braille as easily as a child learns his alphabet, after which progress is rapid. Finger tips are soon trained to take the place of eyes and the fairy world of books is not long closed to the sightless. In the operation of the typewriter, the blind pupils are very proficient and many have already taken their places in the business world as trained secretaries, after having mastered Braille shorthand. Some of these are occupying the positions they held before the war; others have risen to places far superior to those which they previously filled. Upon leaving the institution, each man is given a typewriter, the writing medium of the blind, whose handwriting quickly deteriorates.

Sir Arthur relates an anecdote, showing the rapidity with which the blind soldier learns new things:

Passing through the hall one evening, Sir Arthur, who himself has been blind for five years, heard the rapid click of a typewriter.

"Who goes there?" questioned Sir Arthur.

"Crocker, sir—writing a letter to my mother!"

"Ah, Crocker, how are you getting along?" said Sir Arthur, knowing that the pupil had been at St. Dunstan's but six weeks and had been a miner before the war.

"Fine, sir!"

Did you know anything about a typewriter before the war, Crocker?"

"No, sir—I'd never even seen one!"

This is typical of the progress made at St. Dunstan's. Most of the instructors are blind and there are almost as many as there are pupils, assuring individual attention to each one. There is also opportunity to learn basket making, shoe mending, net weaving, broom making and similar occupations at which the blind are particularly apt, although in so far as possible each man is replaced in his old profession.

Fowl breeding is another special feature of St. Dunstan's. Holding a wiggling buff-cochin or Wyandotte in his hands, the blind man can readily tell its breed, weight and size. Many pupils have been successful in this field. Carpentry has also been successfully tried out. It seems nothing short of miraculous to see sightless men using the plane, saw and hammer and turning out attractive little tables, cabinets, shelves, bookstands, etc.

And there is the garden. On moonlit summer nights, whose spell and beauty the blind feel, perhaps more deeply than we who have eyes, the students gather about in groups. They are fond of singing. One among them is gifted with a remarkable tenor voice, which gives great promise. And there are guitars, and mandolins and ukeleles whose strings throb with gay soldier songs and song of home and love. There are two blind men with a guitar in a rowboat on the lake. No gondoliers of Venice sing more sweetly. There are two more engaging in a tug-o'-war, in a moonlit circle on the lawn, cheered on by their companions.

So life at St. Dunstan's is pleasant. The days are filled with work cheerfully done. The blinded soldier comes back to his own and soon retrieves his lost spirit, and in a measure, his lost "sight," for he discovers that he does not see with his eyes, but with his brain, and though deprived of the proper God-given medium of sight, soon learns to convey the "message of the light" to his brain through other channels.

It is surprising that Sir Arthur takes such pride in his pupils? He is giving men back to life and usefulness, showing them the "unknown guest" within whose power no amount of material misfortune can dwarf. St. Dunstan's will go down in history as one of the great institutions of the war, one that has revolutionized the teaching of the blind and made of them merely normal individuals who are doing without their eyes and doing well!

BRITISH DOCTORS IN STORM OVER NEW GOVERNMENT PLAN.

London, Feb. 1.—Changes in England's system of medical service whereby the "panel" plan now applicable to the poor would be extended to all classes are proposed by a government committee. Many physicians are strongly opposing the proposals.

For a number of years, under a health insurance act, wage earners have been called upon to make a small weekly payment to a fund which the government uses to provide medical attention for all classes of the population affected by the insurance law. Every practicing physician must treat a certain number of the socalled "panel" patients, receiving pay for this work from the government. The new scheme provides for whole-time medical service, and practitioners entering it are to be graded into five classes corresponding to military rank, ranging from lieutenant to colonel.

Class 1 would be paid $7,500 a year. Class 2 $5,000 and so on down to Class 5 which would pay $2,000. Examinations would be held for promotion to higher classes. Expenses incurred by the practitioner for drugs, appliances, clinics and traveling expenses would be paid by the government.

Each physician would be expected to look after between 2,000 and 3,000 patients. The higher classes of men would deal chiefly with administrative work and with the giving of consultative advice.

The patients would be expected to attend a surgery in the morning. Evening consultation would be discontinued and less visits would be paid at night to patients than is done now. Work out of hours would be taken over by the juniors.

All hospitals would be taken over by the government, under this plan.

According to the secretary of the Medico-Political

union, there is a flow of protests from physicians in the army against the scheme.

"Not one-third of the doctors want it," he said. "A clinical service is an abhorrence to both medical men and the public. We are not opposed to state control of hospitals. What we object to do in the clinical system is the destruction of the personal relationship between practitioner and patient, and the abolition of free choice of doctor. The women will be dead against it."

MICHIGAN HISTORICAL COMMISSION, LANSING, MICH.

The first number of the Michigan History Magazine, for the New Year comes to hand fresh and attractive both in appearance and contents.

Col. Roy C. Vandercook, in a review of the work of the Michigan War Preparedness Board for the year just closed, shows that body to have done a patriotic work of inestimable value which has placed Michigan in the forefront of war activities among the states of the Union.

"America and the Great War" is discussed by two Michigan teachers, Miss Bernice Anna Perry of Kalamazoo and Principal E. W. Tiegs of Crystal Falls.

In "Democracy's Educational Problem," Prof. Claude H. Van Tyne of the University of Michigan sets forth the absurd misconception of our true relations with England due to the prejudices perpetuated by school text-books in teaching the American Revolution, the War of 1812, and failure to emphasize the democratic transformation of England during the later years of the nineteenth century. He pleads that the future welfare of democratic peoples the world over demands that this wrong be righted.

A rare picture of a happy and useful married life is presented in the biographical sketch of Mrs. Ferris by her husband former Governor Woodbridge N. Ferris. A pleasing glimpse is given of their school and college days, their work together in the school room, Mrs. Ferris' regard for young folks, her love of nature, her fondness for great books, her sense of humor, with interesting comments upon her letters and essays.

The story of Gross Ile is charmingly told by Father John R. Command and there is a sketch of the life of Captain W. C. Brown by Hon. Crockett McElroy. The editorial columns contain historical hints for teachers. Any public or school library may obtain a free copy of the Magazine by addressing Michigan Historical Commission, Lansing.

DEPARTMENT OF LABOR.

The demand upon the newly established Working Conditions Service of the U. S. Department of Labor, for industrial physicians and surgeons, has grown so rapidly that the Service has been compelled to establish a bureau of registry of physicians specially skilled in this growing phase of medical and surgical specialization.

Manufacturing interests throughout the country are becoming impressed with the vital necessity of properly safeguarding the lives and health of employes, not only from the viewpoint of the new humanitarism, but from a sense of business foresight.

The new registry bureau is prepared to furnish industries with the names of skilled industrial medical advisers on request. The demands for competent medical directors for the factory departments of hygiene are being met by the Service with an adequate list of physicians, all of whom have had experience and training in this particular function. Hundreds of such physicians are listed in the Government's registry bureau in Washington and hundreds are being added to the registration files.

In each instance the Service satisfies itself of the training of the physicians before their names are allowed on the list. Thus, only those best qualified are listed and manufacturers have the advantage of knowing that by availing themselves of this Service their dispensary section will be in competent hands.

In addition to submitting names from the physicians' registry bureau, the Service is making investigations—only on request, however—of the general facilities for protecting the lives and health of employes. This work is carried on from branches of the Service now being established within easy reach of the nation's industrial centers. When such surveys are concluded a report of the findings, with recommendations, is delivered to the responsible head of the particular industry. In this manner industries are assured reliable and unbiased information from authorities who have studied industrial problems exhaustively, with expert training in hygiene, sanitation and related subjects.

Employers and employes have expressed approval of the plans inaugurated by the Working Conditions Service, and have shown a desire to co-operate in the establishment of factory hygiene departments. From the viewpoint of national welfare it is a mighty stride toward bringing employes and employers to a recognition of common purpose and mutual benefit, and the demands upon this newly established Service can only be interpreted as indicative of the value of the medium that has arisen most opportunely.

IS THE MODERN TREATMENT OF SYPHILIS A SUCCESS?

Most physicians who have been in practice twenty years or more can recall cases of syphilis treated with mercury and iodine via alimentary canal for the then recognized period of two to three years, and to-day can place the patients, having had them under observation for that length of time, or being aware of their presence in the community, and can say that they have evidenced no outward or inward signs or symptoms of the disease. They can even recall sporadic cases in which the disease has appeared twice in the same patient, thus evidencing a cure for the first outbreak. Furthermore, they can bring to mind cases which have been quite thoroughly treated, but which, ten or more years later, have presented manifestations which point all too clearly to the activating syphilitic poison. Whether cases were completely cured or not, it is certain that the disease remained quiescent and did not give the patient any further trouble, often through a long life.

To-day the former treatment has given way to

intravenous injections of one of the arsenical compounds, supplemented by the former treatment, or at least by hypodermic injections of some mercurial compound. Can the results achieved by this form of treatment be termed successful? Are we any better off with it than with the older treatment? And which is the remedy, the arsenical compound, or the mercury?

If the results achieved at the Toronto General Hospital can be taken as a criterion and on a par with those achieved in other similar institutions, the majority of physicians can hold to no other opinion than that the treatment is neither satisfactory nor encouraging, even though the writer we shall presently quote states: "Considering the class of cases that have been dealt with at our clinic, the results of treatment are not at all discouraging.'" This is an opinion of very doubtful value.

In the July issue of the *Canadian Medical Association Journal*, Dr. W. T. Williams outlines the method of treatment and the results obtained in five hundred cases. Of these five hundred cases, 145, or 29 per cent., were at an early stage of the disease; 355, or 71 per cent., were at later stages. On an average of seven and a half doses of 0.5 gramme plus four and a half intramuscular injections of mercury, negative Wassermanns were secured in only seventy cases, approximately fifteen per cent. Of these seventy cases, twenty-three were in early stages of syphilis, and forty-seven in the later stages. "Practically all of the late cases were given in addition mixed treatment of mercury and potassium iodide." Very important, too, is this sentence: "Twenty-four cases had a return to positive Wassermann, thirty-five still remain negative, while eleven of them passed from our control"—a not uncommon sequence to the treatment of such cases. That is to say, of the series of five hundred cases treated, thirty-five cases, 7 per cent., may be said to be cured, that is, so far as a Wassermann negation indicates a cure. The number is very, very small, and instead of being problematically "not discouraging," is to say the least, entirely so.

How can the conscientious physician face the patient who seeks a cure for this elusive enemy in his blood or his tissues, and tell him that at the Toronto General Hospital 7 per cent. of the cases are supposedly cured? Surely these results are humiliating rather than "not at all discouraging."

Nor can many be found to agree with a further statement that "about 80 per cent. of all cases experienced relief or freedom from all symptoms, which at any rate is encouraging." Has it not been the common experience that a majority of all cases of syphilis experience relief or freedom from all symptoms either with or without the former treatment after the so-called secondary stage has been passed?

There is, however, another vital point in this modern treatment of a patient with syphilitic infection, the question of expense. Are physicians justified in placing this added financial burden upon patients, when they can probably secure satisfactory "cures" in 7 per cent. of the patients so treated?

The time now seems opportune for the national medical bodies of Canada and the United States (the Canadian Medical Association, and the American Medical Association) to consider the entire question of the modern treatment of syphilis by the intravenous method of arsenical preparations, to appoint commissions or committees, and to have the statistics of hospitals and those of private practitioners with sufficient experience along these lines collected and collated, so that the profession of medicine and the patients may become assured of any real value which this modern method of treatment possesses.—*New York Medical Journal*, Aug. 17, 1918.

TO THE SOLDIERS AND SAILORS OF AMERICA.

Approximately four million officers and men of the Army and Navy are now insured with the United States Government for a grand total of almost thirty-seven billion dollars.

You owe it to yourself and to your family to hold on to Uncle Sam's insurance. It is the strongest, safest, and cheapest life insurance ever written.

For your protection Uncle Sam has established the greatest life insurance company in the world—a company as mighty, as generous, and as democratic as the United States Government itself. Just as Uncle Sam protected you and your loved ones during the war, so he stands ready to continue this protection through the days of readjustment and peace.

The privilege of continuing your Government insurance is a valuable right given to you as part of the compensation for your heroic and triumphant services. If you permit the insurance to lapse, you lose that right, and you will never be able to regain it. But if you keep up your present insurance—by the regular payments of premiums—you will be able to change it into a standard Government policy *without medical examination*. Meantime you can keep up your present insurance at substantially the same low rate. The Government will write ordinary life insurance, twenty-payment life, endowment maturing at age 62, and other usual forms of insurance. This will be Government insurance—at Government rates.

The United States Government—through the Bureau of War Risk Insurance of the Treasury Department—will safeguard you and your loved ones with the spirit and purpose of a Republic grateful to its gallant defenders. To avail yourself of this protection, you must keep up your present insurance. Carry back with you to civil life, as an aid and an asset, the continued insurance protection of the United States Government.

Hold on to Uncle Sam's insurance.

W. G. McAdoo, Secretary.

AN IMMENSE FUND FOR MEDICAL RESEARCH.

According to *Science*, the will of the late Captain J. R. De Lamar, mine owner and capitalist, leaves nearly half his $20,000,000 estate, in equal shares, to the Harvard Medical School, Johns Hopkins University and the College of Physicians and Surgeons of Columbia University for use in medical research and the dissemination of medical knowledge. The rest of the estate is left in trust to his daughter, with the provision that if she dies without issue the principal is to go to the institutions above named.

Some "Patent Medicines" Investigated by the Government.—The following are the names of proprietary medicines which have been the subject of prosecution under the Federal Food and Drugs Act in the government's attempt to protect the public against fraudulent or misleadingly advertised products: Royal Baby's Safety; Simpson's Cerebro-Spinal Nerve Compound; Constitution Water; Tweed's Liniment; Pulmonol; Crown Skin Salve and Pile Cure; King of the World and Family Liniment; Ka-Ton-Ka; Greenhalgh . Diphtheria Remedy; Mountain Rose Tonic Tablets and Herbaline; Parmint; Sulphurro; "Liveon, The 90 Day Consumption Cure;" "Liveon Lung Discs;" White Beaver's Cough Cream and Wonder Work; Watkins' Vegetable Anodyne Liniment, Female Remedy, and Kidney Tablets; Nature's Creation Co.'s Discovery; Radium Healing Balm; Phuton Kidney Remedy; Palmer's Skin Whitener; Barnes Baby Relief; Sayman's Healing Salve; Sayman's Vegetable Wonder Soap; Humphrey's Pile Ointment; Witch Hazel Oil (Compound); Hill's Honey and Tar Compound; La Franco Combination Treatment" and "La Franco Vitalizer No. 200." (*Jour. A.M.A.*, Jan. 25, 1919, p. 297).

Evidence.—The Cutter Laboratory advertises that a physician has used between 700 and 800 doses of its Mixed Vaccine-Respiratory Infections as a prophylactic without a single failure to "protect" against the disease. The Cutter Laboratory thinks this is evidence which "is convincing enough to satisfy even the most conservative." If a physician were to report that 643 of his patients who had used salt instead of sugar in their coffee had remained free from influenza, would this be evidence of the prophylactic value of sodium chlorid? The science of therapeutics is complex enough at its best; and with commercialism dominating the production of therapeutic agents, the likelihood of ever arriving at anything approximating a true science of therapeutics seems hopeless. (*Jour. A.M.A.*, Jan. 4, 1919, p. 45).

Digitan.—A digitalis preparation said to contain digitoxin and digitalin in the form of tannates. It is standardized biologically. Digitan was first introduced as digipuratum and is made under the digipuratum patent by license of the U. S. Federal Trade Commission. The actions, uses and dosage of digitan are the same as those of digitalis. It is sold in the form of a powder and as digitan tablets 1½ grains. Merck and Col, New York.

NEW AND NONOFFICIAL REMEDIES.

Chloramine-T, Monsanto.—A brand of chloramine-T which complies with the New and Nonofficial Remedies standards. The properties, actions, uses and dosage are described in New and Nonofficial Remedies, 1918, p. 156. Monsanto Chemical Works, St. Louis, Mo.

Neoarsenobenzol (Dermatological Research Laboratories).—A brand of neoarsphenamine complying with the New and Nonofficial Remedies standards. It is marketed in tubes containing, respectively, 0.1 Gm., 0.3 Gm., 0.45 Gm., 0.6 Gm., 0.75 Gm., and 0.9 Gm. Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia. (*Jour. A.M.A.*, Jan. 25, 1919, p. 275).

EGG SUBSTITUTES.

The U. S. Bureau of Chemistry has recently turned its attention to the numerous so-called "egg-substitutes" now on the market, concerning some of which extravagant claims are made on their labels, as to their food value and their ability to serve the purpose of eggs in baking and cooking. Analyses show that many of these substitutes consist essentially of a mixture of starch and baking powder, colored yellow with a coal-tar dye. A few contain casein, which is an ingredient of milk. The food value of such preparations, says the Bureau, is far inferior to that of eggs, and experiments show that the substitutes do not have the effect of eggs in cooking. Action has already been taken under the Food and Drugs Act to prosecute the manufacturers of some of these preparations.

PROPAGANDA FOR REFORM.

Misbranded Nostrums.—The following "patent medicines" have been the subject of prosecution under the Federal Food and Drugs Act: Paine's Celery Compound; Botanic Blood Balm; Owens' Wonderful Sore Wash; Lafayette Cough Syrup; Gilbert's Gravel Root Compound; Strange's Rheumatic Remedy; Baur's Diamond Brand Bromides; S. B. Cough and Consumption Remedy; Gowan's Preparation; Urol; Boxenbaum Discovery; Tablets Creavita; Old Lady Fulten's Comforting Pills; C. C. C. (Crownall Elastic Capsules); Victor Injection, No. 19 Compound and No. 6 Compound; Hemogenas Pills; Restorative Tablets—Fountain of Health; Denn's Strong, Sure, Safe and Speedy Stomach, Liver, Kidney, and Rheumatism Remedy; Dr. Navaun's Mexican Lung Balm; Dr. Navaun's Kidney Tablets; Dr. Chas. DeGrath's Electric Oil; Bovinine; Fritch's Vegetable Liniment; Perkin's National Herbs Blood Purifier, Kidney and Liver Regulator; Dr. Lemke's Golden Electric Liniment; Dr. Lemke's St. Johannis Drops; Mentholatum; Enteronol; Dr. Harter's Lung Balm; Dr. O. Phelps Brown's Herbal Ointment; Taylor's Horehound Balsam; Breeden's Rheumatic Cure; Sulphur Bitters; Dr. De Witt's Eclectic Cure; Dr. De Witt's Liver, Blood and Kidney Remedy; Payne's Sylak; Dr. Bell's Pine Tar Honey, and Lung Germine. (*Jour. A.M.A.*, Jan. 4, 1919, p. 59).

"Aspirin" a Common Name.—The claim of the Bayer Company to the exclusive right of applying the name "aspirin" to acetylsalicylic acid will be definitely set aside if the recommendation of the examiner of interferences of the United States patent office is upheld. The stand taken by the patent office is in line with the established principle that no one can have a monopoly in the name of anything. Since "aspirin" has become the common name for acetylsalicylic acid, no one firm can have an exclusive right to it. (*Jour. A.M.A.*, Jan. 11, 1919, p. 119).

AT WORK IN MICHIGAN.

The Menace of the Feebleminded Prostitute and How It Must Be Met.

(By Katherine Ostrander, Director.)

Up to the date of August 15, there have been 675 women patients admitted for venereal treatment throughout the State. Of these 391 (385 of whom are acknowledged and unacknowledged prostitutes))have been discharged, no longer in an infectious state, leaving 284 women now under treatment.

Of these discharged cases, 20 are women who were recommended as being in need of care in the Michigan Home and Training School at Lapeer, but could not be taken because of lack of room in that institution. Sixty of them were diagnosed as retarded mentally but not to a degree making institutional care necessary. Thus, one-fifth of our discharged cases are subnormal mentally, some of them imbeciles. These high-grade morons are the most difficult cases to handle as they are not capable of deciding right and wrong, have no will-power and are led by any stronger will. They are often physically attractive and appear normal.

A great effort is being made to give these discharged girls and women every opportunity to live normal, well-balanced lives, special emphasis being laid on finding them congenial employment and lodging. To do this, it is sometimes necessary to take a girl out of her home environment entirely and place her with strangers who are interested in her, or with relatives.

Of the 391 discharged, one per cent. of seven cases have been returned to the hospitals reinfected. Knowing that a patient can reinfect herself through the natural course of the disease or by not taking treatments regularly, we cannot say how many of these cases are new infections. All but one of them are feebleminded.

The most difficult of all social problems is the high grade feebleminded person. She looks normal, is not usually physically disfigured, and is able to carry on a fair conversation under normal conditions. She is restless, lacks power of decision, has no will, no tenacity or power of concentration and will always be carried by any will stronger than her own. She could be trained from an early age to do one thing well, thus avoiding the economic pressure which she always meets in later life. Without special early training she cannot be economically independent and therefore drifts into prostitution where she can earn food and a bed.

It is my opinion that until Michigan has adequate institutions for housing and training the feebleminded, the problem of venereal prostitutes will continue to grow worse and venereal diseases will continue to increase in all classes of society.

During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Dermatological Research Laboratories:
Neoarsenobenzol.

Guiseppe W. Guidi:
Ittiolo.

Merck and Co.:
Digitan,
Digitan Tablets, 1½ grains,
Quinine Ethyl Carbonate-Merck.

Monsanto Chemical Works:
Chloramine-T, Monsanto.

Unsuccessful Attempts to Transmit Influenza Experimentally.—Two extensive attempts have been made under the auspices of the U. S. Public Health Service and the U. S. Navy to transmit influenza experimentally. Inoculations were made of pure cultures of the influenza bacillus, of secretions of the upper air passages in the early stages of influenza, and of blood from typical cases of influenza, and other methods of transmitting the disease were tried. In no case was influenza developed. (*Jour. A.M.A.*, Jan. 25, 1919, p. 281).

Michigan State Medical Society Meeting

To Be Held

In Detroit, May 21-22, 1919